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Catalogue
1950

998-1306

Aug 13, 1950 16

The fellow who brought in the adult Micromiodes today brought in a living Micromiodes. The snake is capable of quite rapid movement, and bites in the characteristic manner, snapping its head from side to side. When the snake is annoyed, it coils the tail and raises it above the ground. When the tail is raised, the head is lowered and hidden, the tail then looks and acts like a head. ~~Indubitably, this~~
~~species is very different from the~~
~~Micromiodes which we captured north~~
~~of San Juan.~~

With the snake he also brought in our first Phrynosoma solare from this locality.

At about 12 o'clock tonight, Rodney and Ernesto (Clay's sons) came in from hunting. They had gotten no deer, but had brought a large Lampropeltis dolista nelsoni in very good condition.

Another first for today was a small Xeromyza. Perhaps our ^{first} before last, first good rain, which fell ~~last night~~, had something to do with the turtle being out.

veiled

August 14, 1950

Ken is feeling down again today. I suppose that the hot weather has as much to do with our completely roped-out feeling as anything.

Tonight, our first Trimorphodon. It was found by a man who said it came to his casa. Its neck pattern is not like either T. lambda (Guaymas) or paucimaculatus, but the body blotches most like the latter, which is known from Sinaloa.

A couple of days ago Reader contacted the buyers, 5¢ dead or 1 peso alive. Spurred by this fabulous price, a woman and her family went to a cave and collected a sack full of Myotis, getting 35 of them back home. Reader, of course, was stuck for \$35, which made him most unhappy. On top of it all, he caught dysentery and could only put up a few of them. Reader is now known as "Don Marcielago".

August 15, 1950

Last night I went out with Clayto to do some frog hunting. He took me to a stream, which flows through the valley east of the rancho house. Here I collected Agalychnis saltator, Rana pipiens, Litorhina, Bufo mazatlanensis,

reifel

Aug 15, 1956 18

Agalychnis punctatus, and Bufo horribilis.

The Agalychnis were sitting beside the stream in grass. In one spot the grass was a bank about one foot high. A mass of frog eggs (probably Agalychnis) had been laid in the grass on the edge edge of this bank, in such a way that they would wash into the stream if it rained. The frogs themselves leap into the water when disturbed, but do not attempt any violent evasive action, they merely swim back to shore or to the opposite bank and chamber back out of the water.

Leptodactylus were calling. The toads appeared to be merely transients.

Aug 16, 1950

This morning Clayton took me to a canyon about $1\frac{1}{2}$ miles east of the ranch (across the valley) where there are supposed to be wild bananas, but he couldn't find them. This is a beautiful little canyon with permanent water, lush vegetation (lots of figs & vines).

There are thousands of poeciliids in the stream and also many gobies. Oddly enough, there are no cichlids, these latter

Zwerfel

Aug 16, 1950

dominate the ponds in the arroyo region.
Rana pipiens is very abundant along the streams. When the water is deep enough, they seek refuge by diving in, but in other places they are just as apt to leap away from the water.

I found a large Drymechore out on a small fly which grew from the ~~south~~ vertical side of the canyon. I tried to knock it down with an agave stalk, but the snake reached the upper edge of the bank (about 12' high here) and escaped.

An adult Coluber striolatus seen by the water's edge did a lightning fast fade out & disappeared.

On the way back, Clayto spotted a Thalerochis threaded through the top branches of a ~~tree~~^{small} about 4' tall. This one, I caught, but with many wound from the thorn forest.

Aug 17, 1950

Clay Montgomery acts as doctor in these parts and makes a little change selling assorted drugs. The other day a woman brought in her baby, which child was suffering from a common

Zweifel

Aug 17, 1950

malady, summer dysentery. No matter how much medicine she gave it, the child got worse. After a little questioning, Clay found, that the woman had been feeding the kid milk of magnesia tablets!

Last evening there was a rain which by my standards was heavy, but according to Clay was but a sprinkle. This has been one of the driest Augusts in a long time, and crop failure is a real possibility.

Aug 18, 1950

Ken has shown some signs which could be interpreted as indicating amoebic dysentery, so we have decided to cut our trip off short and head for the states tomorrow. He has started the diiodoquin treatment. ~~For~~

The snakes brought in today bring our total up to 99 for Guiroroba alone. We hope to break 100 before we leave tomorrow morning.

A Rhinocenthon brought in today is more like the typical antoni than was the last specimen. This one has ^{the} red areas ~~both~~ of the interspaces prominent dorsally as well as laterally.

Journal

Aug 18, 1950

Animals found in stomachs of examined yesterday included a nestling bird in Heloderma, Bufo mazatlanensis in Drymarcon and Thamnophis, and Scincus and Cnemidophorus in Drymarcon. A Drymarcon from a couple of days ago had eaten a small B. punctatus.

A Trimorphodon was brought in today by a small boy who said he had found it in a crack in the rocks.

A series of tadpoles (1231) which I collected from pools in a rocky canyon NE of the ramblouse do not fit any of the adult anurans I have seen. In life the tadpoles were gray with gold flecks laterally. They were not gregarious like the smaller black tad which I believe are Leptodactylus. They have the habit of hanging motionless in the water in a vertical position, tail down.

Aug 19, 1950

This morning before we left, three more snakes were carried in (Hypsiglena, Drymarcon, and Constrictor), and with a Columel bilineatus which we captured on the way out, gives us

Guayal

Aug 19, 1930

a total of 103 snakes for less than two weeks at Guarioba.

On the way out, we stopped at Arroyo Cuchayague to seine fish.

Arroyo is 20 miles from Guarioba.

The seining was remarkably good, raising at least eight species including one little beast which looks like an atherine.

In Alamos we stopped to meet John Hilton, who talks much as he writes. He showed us four Terrapene blanchi which he is going to give the San Diego Zoo and gave us some Xenosternon from Alamos.

Past Navajon we ran into a very heavy thunder shower. The roads were very muddy and difficult to drive. We met an American who said that there was a bad spot further on where the trucks were stuck, and the only way past was via the railroad bed. We decided that this obstacle would be better faced in daylight so we packed out, hoping for a dry morning.

is an atherine of a genus previously recorded further north than Mazatlan.

Catalogue

Aug 3, 1950

26.8 mi S. Nogales, Sonora, Mexico998 Thamnophis macrostomus megalops6.7 mi N. Gonzalitos, Sonora, Mexico999 Urosaurus0.5 mi N. Gonzalitos, Sonora, Mexico1000 Phrynosoma solare27.7 mi N. Hermosillo, Sonora, Mexico1001 Crotalus atrox11.5 mi N. Hermosillo, Sonora, Mexico1002 Crotalus tigris15.8 mi S. Hermosillo, Sonora, Mexico1003 Scaphiopus couchii23.8 mi S. Hermosillo, Sonora, Mexico1004 Bufo punctatus

Catalogue

Aug 2, 1950

Tucson Mountain Park, Pima Co, Arizona1005 Cnemidophorus tigris aethiops

Aug 4, 1950

35.2 mi S. Hermosillo, Sonora, Mexico1006-7 Holbrookia maculata1008-9 Urosaurus40.7 mi S. Hermosillo, Sonora, Mexico

1010

~~Chionactis~~~~occipitalis~~Chionactis occipitalis palaostris

Aug 5, 1950

12.4 mi NW Navaja, Sonora, Mexico1011 Coluber flagellum1012-6 Cnemidophorus sacki1017 Callisaurus draconoides brevipesNavaja6.1 mi NW ~~Navaja~~, Sonora, Mexico1018 Gyalopion desertorum

Brief

Catalogue

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Aug 6, 1950

Guerocha Rancho, Sonora, Mexico

- 1019 Bufo alvarius
1020-25 Bufo mazatlanensis
1026 Scaphiopus couchii
1027 Cnemidophorus sackii
1028-32 Holbrookia maculata
1033-4 Urosaurus
1035 Sceloporus
1036-8 Scaphiopus couchii
1039 Thalerophis diplotropis

Aug 7, 1950

- 1040
1041 Bufo
1042 Agalychnis dacnicolor
1043 Lygmarchus corais
1044-8 Callisaurus draconoides brevipes
1049 Cnemidophorus sackii
1050 Sceloporus
1051 Thalerophis diplotropis
1052-60 Holbrookia maculata

Aug. 8, 1950

- 1061 Cnemidophorus sackii
1062-4 Urosaurus
1065-7 Sceloporus
1068-73 Holbrookia maculata
1069-7 Callisaurus draconoides brevipes

Guiraca Rancho, Sonora, Mexico

Aug 8, 1950

- 1078 Thalerophis diplorhynchus
 1079 Coluber flagellatus
 1080 Urosaurus
 1081 Ctenosaura hemilopha
 1082 Anolis

Aug 9, 1950

- 1083 Sonora acmilla
 1084-5 Thamnophis eques
 1086 Hypsiglena ochrorhynchos
 1087-90 Sceloporus
 1091-3 Sceloporus nelsoni
 1094 Cnemidophorus sackii
 1095 Ctenosaura hemilopha
 1096-7 Urosaurus
 1098-9 Holbrookia maculata
 1100 Kinoastemon
 1101-2 Constrictor constrictor
 1103 Drymanhous corais
 1104-8 Ctenosaura hemilopha

Aug. 10, 1950

- 1109 Ctenosaura hemilopha
 1110 Micruroides euryzonus euryzonus
 1111 Oxybelis aeneus
 1112 Cnemidophorus sackii
 1113-4 Sceloporus
 1115 Holbrookia maculata

Catalogue

Guiricoba Rancho, Sonora, Mexico

Aug. 10, 1950

1116-7 Urosaurus

Aug. 7-10, 1950

1118-1136 Leptodactylus

Aug. 10, 1950

1137 Bufo punctatus

1138 Agalychnis dacnicolor

Aug. 7-10, 1950

1139 Agalychnis dacnicolor

1140-32 Smilisca baudinii

Aug 11, 1950

1153 Rana pipiens

1154 Leptodiera ephippiata

1155 Thelerophis diplotropis

1156 Thamnophis eques

1157-8 Cnemidophorus sexlineatus

1159 Bufo horribilis alvarius

Zweifel

-64-20

Catalogue

Guinoba Rancho, Sonora, Mexico

Aug 12, 1950

- 1160 Dryomarchus corais
1161 Oxybelis aeneus
1162 Coluber striolatus
1163-4 Sceloporus
1165 Rana pipiens (at Cienigita)
1166 Dryomarchus corais (at Cienigita)
1167 Bufo horribilis

Aug 13, 1950

- 1168 Agalychnis daenicolae
1169-70 Similia bandinii
1171 Salvadora hexalepis desertiola
1172 Oxybelis aeneus
1173 Thalassophis diploporis
1174 Tamrhopeltis doliata nelsoni
1175 Otenosaurus hemilopha
1176-8 Sceloporus
1179 Sceloporus nelsoni
1180 Phrynosoma solaris

Aug 7-13, 1950
(Aug 13)

- 1181 Geomys
1182-7 Kinosternon

Specimens

-6521

Catalogue

Lunoboa Rancho, Sonora, Mexico

Aug 14, 1950

- 1188 Trimorphodon apilon
1189 Thamnophis eques
1190-5 Sceloporus
1196 Urosaurus
1197-8 Agalychnis lucicolor
1199 Leptodactylus
1200 Rana pipiens
1201-7 Byrrh mazatlanensis
1205-6 Amphisbaena bandini

Aug. 15, 1950

- 1207 Heloderma horridum
1208-9 Thalerophilus diplotropis
1210 Drymarchos corais
1211 Phyllodactylus tuberculatus

Aug. 16, 1950

- 1212 Anolis
1213-4 Thalerophilus diplotropis
1215 Drymarchos corais
1216 Thamnophis eques
1217 Cnemidophorus sackii
1218 Oxybelis aeneus
~~1219 Thalerophilus diplotropis~~
~~1220 Constrictor constrictor~~

R. Zweifel

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Catalogue

Rancho Guiracaba, Sonora, Mexico

Aug. 17, 1950

1219-21

Drymarchon corais

1222

Thamnophis eques

1223-4

Thalerophis diplotropis

1225-6

Oxybelis aeneus

1227

Coluber bilineatus

1228-9

Sceloporus nelsoni

1230

Smilisca baudini

Aug. 18, 1950

(some of tadpoles)

1231

Drymarchon corais

1232

Agalychnis saltator

1233

1234

Rhinoceros

1235

Oxybelis aeneus

1236

Coluber flagellum striolatus

1237

Thalerophis diplotropis

1238

Thalerophis diplotropis

1239

Constrictor constrictor

Aug 19, 1950

1240

Coluber bilineatus

1241

Drymarchon corais

Prep

-6723

Catalogue

11.4 mi. N. Hermosillo, Sonora, Mexico

Aug 20, 1950

1242 Coluber flagellum piceus

29.3 mi N. Hermosillo, Sonora, Mexico

Aug 21, 1950

1243 Thamnophis eques

19.4 mi S. Santa Ana, Sonora, Mexico

Aug. 21, 1950

1244 Coluber flagellum piceus

Madera Canyon, Santa Rita Mtns,
Pima County, Arizona

Aug 22, 1950

1245 Urosaurus ornatus

1246-54 Sceloporus jarrovi

Alamo Canyon, 2.5 mi SW Pena Blanca Camp
Pajarito Mtns, Santa Cruz Co, Ariz

Aug 23, 1950

1255 Hyla arenicolor

1256-7 Knosternon sonoriense

1258-69 Rana tarahumarae

Zweifel

-6824

Catalogue

Peña Blanca Camp, Pajarito Mtns,
Santa Cruz County, Arizona

Aug 23, 1950

1265 Rana pipiens

1266-71 Scaphiopus hammondi

1272-4 Bufo punctatus

Alamo Canyon, 2.5 mi SW Peña Blanca
Camp, Pajarito Mtns, Santa Cruz Co, Ariz.

Aug 23, 1950

1275 Rana tarahumarae

1276-7 Thamnophis eques

Exmore Canyon, Pajarito Mtns, Santa
Cruz County, Arizona

Aug 24, 1950

1278 Thamnophis eques

1279 Holbrookia

1280-1 Rana tarahumarae

1282-3 Rana pipiens

1284 Eumeces callicephalus

Catalogue

1.6 mi. E Cortaro, Pima Co, Arizona

1285 Pituophis catenifer affinis Aug. 25, 1950

11.0 mi W Cortaro, Pima Co, Arizona

1286 Pituophis catenifer affinis Aug 25, 1950

13.9 mi E. Sentinel, Maricopa Co, Ariz

1287 Coluber flagellum puerus Aug 26, 1950

7.1 mi E Sentinel, Maricopa Co, Ariz.

1288 Cnemidophorus tigris Aug 26, 1950

1.2 mi N Hoberg, Napa Co, Calif.

1289 Thamnophis elegans elegans Oct. 1, 1950

Oct 17, 1950

3 mi. NNE Vallejo, 120 ft, Solano Co., Calif1290 ♂ ad. Euphagus cyanocephalus (coll. W. Russell) 59.91 gm2 1/2 mi. E Santa Cruz, Santa Cruz Co., Calif.

Oct 22, 1950

1291 ♂ ad. Passer domesticus (coll. W. Russell) 29.7 gm1.5 mi NW Orinda, Contra Costa Co., Calif

Oct, 1950

1292 Thamnophis elegans

1293 " "

1294 " "

Muir Woods, Marin Co., Calif

Nov. 10, 1950

1245 Rana boylei (collected B. Woodin)

1246 " " " "

1247 " " " "

Fake Chabot, 2.5 mi NNE Vallejo, Solano Co., Calif

Nov. 19, 1950

1298 Thamnophis elegans

1299 " "

R. Zweifel

-7127.

Catalogue

19.6 mi. S Montuella, Napa Co., Calif.

Nov. 26, 1950

1900

Aneides lugubris

1901

6 mi S Montuella, Napa Co., Calif.

1902

Triturus torosus

7.5 mi N Calistoga, Napa Co., Calif.

1903

Aneides lugubris

1904

Cnemidophorus tigris gambelii

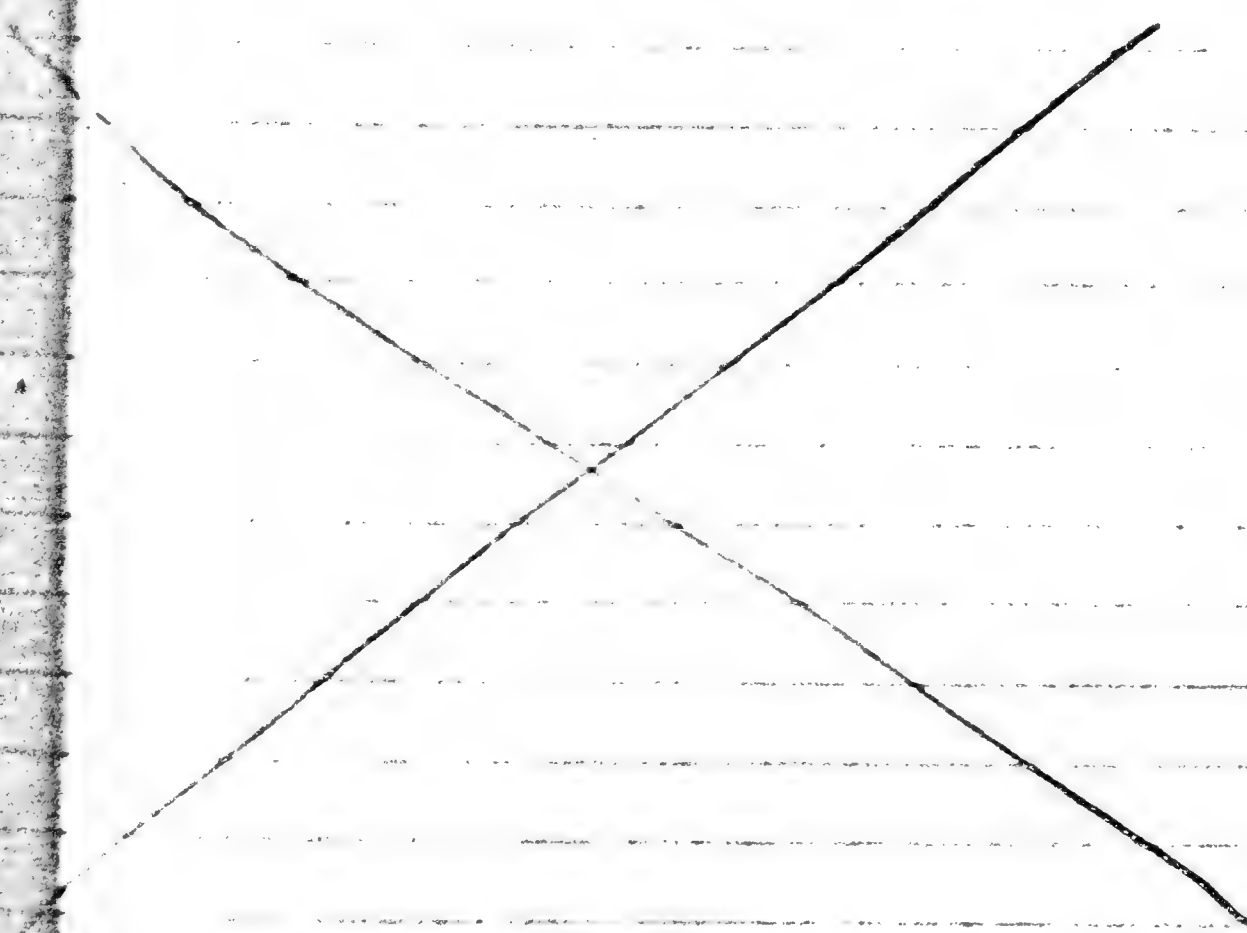
1905

1906

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Journal 1950

Gweifel

Sonora Trip

Aug. 2, 1953 103

After much delay, we left Los Angeles yesterday at about 7:00 P.M. The party consists of Ken Norris, Bill Reeder, and myself, transported in the horribly overcrowded Jeep Pick-Up Truck.

The first night's camp was made in the Coachella Valley between Palm Springs and toward Palm Junction at about 12 midnight.

Today's travel has taken us from that point to the vicinity of Tucson. On the way we stopped by the All-American Canal and the Algodones Dunes. Ken wanted to shoot a ♂ Uma to check the ventral coloration, which he did. We took time out for a swim in the canal; most refreshing.

Our camp tonight is in Tucson Mountain Park south of the main highway (US 80) and SW of Tucson. In the wash by our campsite we collected a single Bufo alvarius (SV 4.5") and a series of small Bufo punctatus and Scaphiopus, the latter probably S. couchii. There is no running water here, mostly just moist sand. Saguaro and mesquite are present, as well as many other trees which I cannot identify.

Among the more interesting invertebrates present are a large solpugid which

weird

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Aug 2, 1950

is dining royally on cooked moths
from our Coleman Lantern, and a
militized (6" long) whose leg action
travels in waves which seem to
start at the posterior end of the body.

Aug 3, 1950

In Tucson this morning we visited
the Public Health Service, where we obtained
a prescription for chlorquine, a
malarial suppressant.

Our inspection by the Mexican
Customs consisted of the examination of
two suitcases and the store, followed
by \$2.00 beer money to the officers.
There was also the legal \$3.00 for
each tourist permit.

26.8 mi S of Nogales we
collected our first Mexican specimen,
a Thamnophis macrostemma megalops
found under a rock in the mesquite
tree - grass association 150 yds from
the Rio Magdalena.

Between Nogales and Hermosillo
we collected Phrynosoma solare, Urosaurus
Callisaurus draconoides, Crotalus
trox, 2 Crotalus tigris and a Bufo
alvarius. A Gopherus was found on
the road 55 mi N of Hermosillo, but

Overfed

Aug. 3, 1950
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was not saved.

The rattlesnakes were collected at night, as was a large adult Rhinorhynchus lecontei-pentoni.

We continued on through Hermosillo and drove south until about 11:30 PM. There was intermittent rain, some in the form of very heavy thundershowers. Scaphiopus couchii was breeding in roadside pools, giving that hideous call. A single Byth punctatus was collected from a roadside pool where it was singing.

at 11:20 PM, 30.6 mi S of Hermosillo, we found a ^{longirostris getulus} ~~Diszomischus~~ crossing the road. This specimen is about 175 miles NW of the previously recorded northern limit, <sup>(Snake is actually a orlon-
istic king snake)</sup> ~~Alamo~~.

We made camp 52 miles N of Guaymas and were rained on much of the night. The vegetation at this site is rather sparse, consisting of scattered cactus, Palo verde and mesquite trees separated by bare ground.

Aug 4, 1950

Found lots of lizards here this morning. The scarcity of ground cover makes them more evident.

Zweifel

Aug 4, 1950

If a stone is thrown near one of the foraging Cnemidophorus tigris aethiops, the lizard takes off after it at a great rate and does his stupid best to catch it down. Holbrookia maculata and Urosaurus ornatus were also collected at this locality.

An LOR Coluber flagellum piceus was found at 8:00 AM 47 miles N of Guaymas. 0.1 miles farther on a DOR Chionactis. Macromystus (see note on back p. 107) previously not been recorded north of Guaymas. A DOR Hypsiglena ochrospheia was collected 3.3 miles further on.

In Guaymas we visited the "Instituto Pesca" and then went back to Bocachampo where we swam, drank beer, and tagged specimens for about three hours before moving on.

Our next stop was a camp about four miles past C. Oregon. Nothing spectacular happened here.

Aug. 5, 1950

The road is paved for about 52 miles past Empalme.

Our next stop was at a wash 12.9 mi NW of Navajoa. Here we collected Cnemidophorus sackii, Urosaurus

Zweifel

Aug. 3, 1950

Callisaurus draconoides, and two
Coluber flagellum. The snakes
were indulging in Libeazeil, despite
the fact that the ♀ had ova about
one inch long. "In every society,
there are always a few who overdo it."

6.6 mi NW of Navajo we found
a very DOR Gyalapion discretum.
This is in the ^{THORNTON} Short Tree Forest.

At an Arroyo 8 mi SE of Alamos
(where we camped last winter) we
got 2 Cnemidophorus sexlineatus, one ^{subsp.} sexlineatus,
Callisaurus d. brevipes and a
Phyllodactylus. Ken shot the gecko off
a root-butteress (fig), most unusual
for the beast to be day-active.

A Phyllorhynchus browni fortius,
probably the second specimen of this
race to be collected, was taken DOR
13.2 mi ~~W~~ WSW of Alamos in the
short-tree-forest.

We made a wrong turn a few kilometers
out of Alamos and went 40 kilometers
out of our way. The Cuchuyagui was
quite low, and easily crossed. (We
had earlier been forced to detour to
cross the Rio Yagui, the pango having
been washed away. We had to travel
north to where a new dam is under

weifel

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Aug. 5, 1950

construction, there is a bridge here).
Our camp is a few miles past the
crossing of the Cuchuyaguni.

Aug. 6, 1950

We finally reached Huorobla today
noon, in time to have a fine meal
of beans, tortillas, bananas, peas, and
milk (?).

In the afternoon, Ken and I went down
to the arroyo, where we caught a very
naughty Thalassophis duplestoyi which was
chasing an Agalychnis. Later in the
afternoon one of the niños came in with
a small box which we bought for one peso.

Aug. 7, 1950

We spent the morning seining in
the arroyo, getting a few cichlids, catostomids,
and poeciliids. The rapidity of color
change in the cichlids is amazing. One
individual had a bright yellow back
and black sides when we seined the
seine under him, but in the second it
took us to lift the net out of the water, the
fish had become dull brownish-black all over.

Zwajll

Aug 7, 1950 ¹⁰⁹

Most of this afternoon was taken up with buying specimens from the niños. We bought Hypsiglena, Thamnophis eques, Erymarchon, 2 Thalerophis and a hatching Microloides. In addition there were great herds of lizards, frog, and toads. One of the Thalerophis had just eaten a frog, Pternodytes.

We told the kids we would pay one peso each for tortugas, having in mind something the size of an adult Pseudemys. The first happy little monster to rush up was clutching a Kinosternon all of $1\frac{3}{4}$ " long; of course we paid one peso for it, but lowered the price right then.

Aug 8, 1950

This morning Ben came down with bacillary dysentery. He is soaked out and feeling rather low. I feel a little queasy myself, but Beedes seems to be O.K. Anyway, we have lots of medicine for dysentery.

We are currently paying 1 peso (11.6¢ USA) for some snakes, 2 pesos for others. They go for 5 to 10 centavos (.28 to 1.16¢ USA). Kinosternon are going at 20-60¢.

W. J. F.

Aug. 8, 1950 110

One of the minors just brought in a living Sonora aemula!

The head is white, except for a black band involving the supraocular, frontal and parietals. There is a narrow black ring on the nape, followed by the red ground color of two thirds of the dorsal surface. There are two bands on the posterior third of the body and another on the tail. Each of the red scales is marked with a central black dot. The ventral color is dull white, the bands being obscure but not absent.

Now have the bats. Bah.

There was a light rain last night. Previous to that, it had rained only once or twice in the last 12 days. During July, the water was over the dam 6 times! Now the waterstand is 7 feet below the top of the dam.

Aug 9, 1950

Our first Oxybelis was brought in yesterday. Rodney (one of Clay's sons) remarked that it sucked cows dry, causing the teat to become hard, dry. Mrs. Hoge (Clay's mother) says that the rainy season is never officially under

Zurife

Aug 9, 1951

way until a certain turtle begins to
give its cry "Don Juan". Also, everybody
has believed that the pichuquato whistles.
We had another light rain yesterday
evening

Aug 10, 1950

The medicine which Bill brought
long seems to have cured Ken of
his Dysentery. Treatment includes
paragon, brometh sulcarbonate,
sulfamazine and sodium bicarbonate.
I have taken it myself today, as I
am getting over my mild attack
rather slowly.

A fellow who yesterday brought in
a box (5' long) today showed up with
Micromys which he found in his casa.
This house guest for a bare footed tribe.

The niños have been bringing us great
boards of Leptodactylus for \$4 each.
Today the first Bufo punctatus came
in, along with the usual quota of
new sexed sapos and perritos.

The Leptodactylus call every evening
in the arroyo, usually from the
shelter of flood washed debris at the
water's edge. The call is a curious
monosyllabic snapping noise which I

Swift

Aug 10, 1952

find it difficult to describe.

A Rhincheilus was brought in this morning which looks very close to typical clausa, having only a very little red ^{on the} white ring. It is strikingly different from the typical antoni which we captured north of Hermosillo, and which has been taken at Alamos and Guiricoba. Here frequently rears its ugly head.

Yesterday Bill caught a Heloderma eximium while running his trap line. While bashing it with a rock, he observed it to be very active and quick to bite.

Bill came down with dysentery today, and is now all doped up with suifa, et. al.

Aug 11, 1950

While tearing apart some flood washed debris (branches, leaves) in the bottom of a canyon (Arroyo negro) I found a Leptodeira ephippiata hidden in the debris. Leptodeira and Rana pipiens frequent these tangles and probably serve as food.

A Dipsosaurus brought in this morning had eaten an adult Bufo marinus.

weifel

Aug 11, 1953

lanensis. A Thaleropterus brought in yesterday had eaten a Smilisca baudini. Another Thaleropterus taken earlier had eaten a Pternophylla fodens, our first record for this frog.

Aug 12, 1950

Today we hiked to Cieneguitas, an area of springs & small marshy areas about three miles NNW of the ranch house. We were guided there by Clay's son, Clayton, the little monster at a ghostly pace. This hot and humid weather is not very good for hiking, although it didn't bother the bird. Cieneguitas is at the edge of the oak belt; oak covers the surrounding hill-sides. There are hundreds of palms and many cypresses ^(Taxodium), all in all the vegetation is quite lush.

The palm fronds are utilized as roosting places by bats. The total number of bats roosting in this vicinity must be immense for the number of bats which can be ~~seen~~ ^{shed} out of any one palm is remarkable.

We encountered two skinks, one of which was captured. Ken found the first under a piece of bark fallen from a dead oak. We chased it around for

hard Zuerfel

Aug. 12, 1919

Erythronium

a minute or so but it escaped. The second one was found under a rock at the base of a tree (dead) on a small basaltic outcropping. This one was captured.

It is a small skink (50 mm) with brilliant blue tail. The lines on the head which would be expected to be white, are reddish orange. There is no mid-dorsal line. The dorso-lateral and lateral light lines fade out at about mid-body, the former slightly before the latter. The area between the dorsolateral and lateral lines is black, that between the dorsolateral line and the back is light brown. This beast seems to be Cnemidophorus scutiger.

Rana pipiens were common about some of the larger pools. No other frogs were seen. Newly transformed Bufo punctatus were commonly observed both along the trail to Cienigita and at Cienigita. Rather surprising to see these little toads out in the daytime and away from water.

An Oxybelis was taken crawling rapidly across grassy, open ground between trees (acacia?). This was on the trail to Cienigita. At Cienigita I found a large (5') Drymonia acris at a pool edge.

Excerpt

Aug 12, 1951 15

Egg notes mammal

There turned out to be quail eggs



Yesterday a vivo Heloderma was carried in by a proud paisano. It laid three eggs and later gave up eleven more via caesarian. The eggs measure 31×24 mm and are rather sharply pointed on one end while being almost flat on the other. We are trying to incubate some and have preserved a few others.

Our first Coluber bilineatus was purchased today, along with another large Coluber striolatus. The C. striolatus is a much heavier bodied beast than would be a similar sized C. flagellum. Also the grey ground color is quite distinctive, I have never seen the same color in C. flagellum.

We had been bothered for the last couple of days by an increasingly bad odor in our room. Ken blamed it on the trash box, I thought there was a dead toad and Reeder was non committal. Finally Bill came up with a sack containing a dead house cat. He had set the glue-some thing down next the stove and forgotten it. In complete disbelief, he uttered the classic statement "do you think this could be it"? A deathless line.

Weyfel

Aug 20, 1933

Driving a few miles on these muddy
roads is an immense strain, largely
because it is next to impossible to
control the car when the mud is deep.

Fortunately we had no major mis-
adventures this morning. Once the engine
stalled and died in a large mud
puddle. Another time we were stuck
in deep sloppy mud and pulled the car
out with the block and tackle.

The spot about which we had been
warned last night was still bad
this morning. There were still two
large trucks badly mired in. However
it was easy enough to bypass the
mud by driving on the railroad
tracks, which we did.

The rest of the way in to C. Oregon
was easily driven, since the rain
had not moved this far north.

Happily enough, the pango at Cocorit
had been repaired and to our great
surprise, the highway was paved to the
Rio Yagui.

A DOR Hypsiglena (not saved) was
the only snake seen in today's daylight
driving. This was 26 miles N of Obregon.

Zweifel

Aug 20, 1950

Of course we stopped at Borochubango for Cerrera. This is probably the most pleasant spot on the coast.

We tried night driving north of Hermosillo, but results were poor enough that we stopped after 40 miles. We found only one DOR Coluber flagellum and one LOR Crotalus atrox. The racer is black anteriorly and tan posteriorly, a most hybrid looking beast. Possibly this is an ontogenetic effect.

Aug 21, 1950

Driving north this morning we encountered the following snakes on the road: Thamnophis eques (LOR) and Salvadora hexalepis (DOR) both 39 mi S. Santa Ana; Coluber flagellum juvenis DOR 37.1 & 19.9 mi S. Santa Ana; Thamnophis macrosternum DOR (not saved) 25.2 mi S. Nogales; and Pituophis catenifer DOR (not saved) 8.1 mi S. Nogales.

The first Coluber is an adult in the all black stage. The other is a tan juvenile with only one or two faint blotches on the neck.

Zweifel

Aug 21, 1950 ¹²⁵

We crossed the border in fine style, with no inspection at all on the Mexican side and not too much on the American. The border men were more interested in playing with one of the live boars.

Kicker has decided to return to Los Angeles rather than stay for a week in Arizona with us. He claims that work calls him back, but we know better.

So we put him on the 9:20 for D.A. out of Tucson and returned south to camp in Madera Canyon in the Santa Rita Mountains.

Aug 22, 1950

We have camped in the oaks at the end of the road in Madera Canyon.

This morning we hiked up the canyon into the pines. On the way up and back we collected a series of 19 Sceloporus jarrovi. These lizards are very easy to move, & caught almost every adult & tried for.

S. jarrovi was the only lizard seen in this upper part of the

P. Zweifel

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Aug. 22, 1950

canyon; a single Urosaurus ornatus found on an oak trunk lower in the canyon was the only other seen.

There was no sign of amphibian life in the stream. We found nothing when we went out last night with the lanterns.

The place seemed so dead that we decided to leave and head for Peña Blanca Spring, where we have camped so tonight.

Aug 23, 1950

There is an improved camp ground at Peña Blanca with piped water, tables and toilets. In my present loose condition the latter item is a prime necessity.

The general topography of this region is somewhere between the rolling hill and mountain stage. The rock is mainly conglomerate, and crops out to form numerous rather bare protrusions. All of the hillsides are covered with deep grass and dotted with live oaks. Also present are manzanita, oratillo, juniper and, in the canyons, willows and cottonwoods.

Zwiffo

Aug 23, 1950 ¹²⁷

We talked to Mr. Forsyth, a hoof and mouth disease man who is camped at Peña Blanca, and he gave us elaborate instructions for finding the spot where the Rana tarahumara occurs.

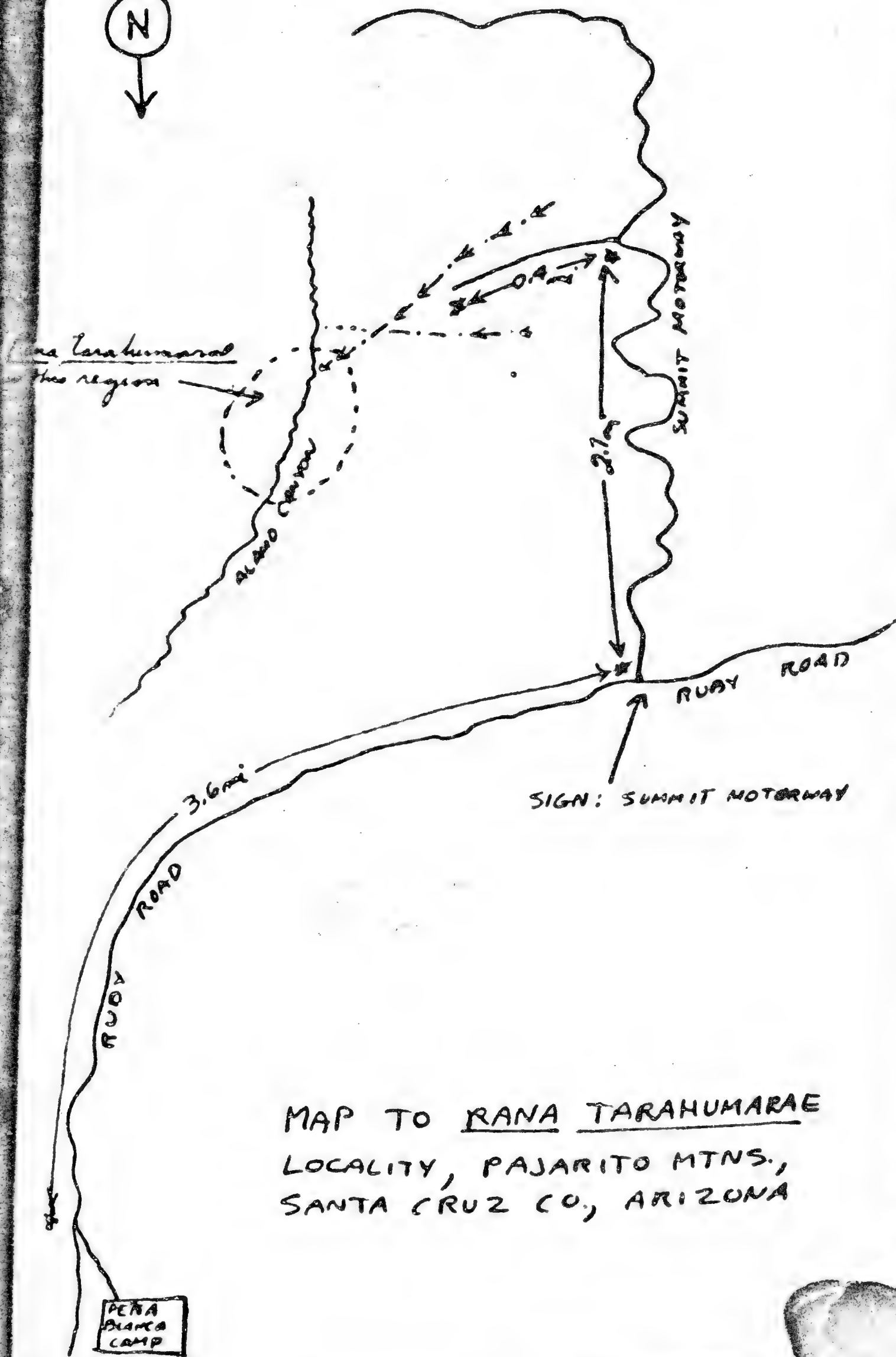
We found the canyon without too much trouble, and found the frogs. Ken spotted the first two adults crouched together in a niche on a vertical rock wall $3\frac{1}{2}$ feet above a pool about 2' deep and 8' wide. Other adults were found in the following situations: two in the bottom of a pool 3' deep and 12' wide; one on a rock shelf just covered by water beside a pool; one on the sandy shore of a pool; one in a hole in the conglomerate deep enough to hide the whole body, and 2 feet above the water.

The canyon is quite narrow and rock walled. The pools in which the frogs occur are connected by underground flow, although there is surface flow where bedrock crops up and in a few other places. Cottonwoods, willows, oaks and junipers are present in the canyon bottom.

Tadpoles were common in most of the pools within the half mile or so of

Zweifel

Aug 23, 1958



MAP TO RANA TARAHUMARAE
LOCALITY, PAJARITO MTNS.,
SANTA CRUZ CO, ARIZONA

streams in which we found R. tarahumarae.

The "strikingly spotted" (quotes Wright and Wright) R. tarahumarae tadpoles are quite distinct from any others I have seen, by virtue of the spotting of black on a pale greenish-grey ground color. Tadpoles and transforming young were collected.

The dorsal color of the adults is brown, very similar to that of southern California D. b. boylii. The half-grown R. tarahumarae resemble R. boylii quite closely, but the adults are bigger than any boylii or muscosa which I have seen. There is some yellow in the groin region.

Rana pipiens was very common, both in the area occupied by tarahumarae and in the less well watered upper portions of the canyon where no tarahumarae were found. An egg mass found attached to the rocky bottom of a small pool could belong to either species.

Also collected in the canyon were Kinosternus sonoriensis, Phyllorhina equa, Cnemidophorus gularis oculolineatus, and Hyla arenicolor. The latter is represented by one adult and one transforming tad.

weifel

Aug 29, 1939

There was a thundershower yesterday afternoon. Thinking it might bring some amphibians out, we went out after dark with the lanterns and walked up the canyon, but found nothing. Another thundershower started while we were out, driving us back to camp. When this shower was over, we again went out and this time had more luck. Walking along the road which runs by Peña Blanca Camp, we collected Bufo punctatus (one adult, several juveniles), Scaphiopus hammondi (2 or 3 adults, several juveniles), Microhyla o. sagittiferens (one adult), Hyla arenicolor (one sub-adult) and Rana pipiens.

The Scaphiopus resemble the Bufo in the possession of many red-tipped warts.

In life, the Microhyla was brown dorsally with a few black spots arranged in no definite patterns.

This morning we drove to Sycamore Canyon and Yant's Spring (which waters the canyon, in part), about seven miles from Peña Blanca on the Ruby road.

The first thing which you notice about Sycamore canyon is that there

Zweifel

Aug 27, 1935

are no sycamores, at least none where the road crosses or for a mile downstream. The prominent trees are walnuts and willows.

The flow of Yanks Spring is piped into a cattle watering tank. Just below the spring there appears a good flow of water in the streambed.

Minnows (Stila ditrema) are in the stream and in most all of the isolated pools. Rana pipiens was very commonly observed both along the stream and in shaded, isolated pools.

Rana tarahumara were found in one ^{3'} deep, rocky pool, deeply shaded by a large willow. The water temperature was 27°C near the surface but cooler deeper down. The frogs were sitting around the edge of the pool when first seen, but dove in and sat on the bottom when frightened. They are easily collected with a dip net. This pool is not stagnant, but gets ~~some~~ ^{part of the} stream flow. The restriction of the frog to these rocky pools is quite evident. Four were collected here while none were seen in the rest of the mile or so of canyon investigated.

Zweifel

Aug 29, 1938

Similarly, yesterday's Rana tana-
humarae were found only in rocky
creeks which received the full flow
of the stream but yet were deep
enough that there was no rapid
water movement in them.

The pool from which today's R. tana-
humarae were collected contained a
large number of Gila ditaenia, some
up to 6" long. A single haul with
the 10' seine netted a quart jar full
of fish. These are very colorful fish,
with striking red areas at the bases
of the pectoral and pelvic fins. This
color was not present in the Gila
which we collected yesterday in
Alamo canyon.

The size of the pool is about 15'
x 10' x 3' deep.

Tonight we visited a cattle tank
which is 9 miles up the Bully Road
from Peña Blanca Camp. Only Rana
sierrae could be found.

Ken found a small Eumeces
callicephalus under a stone in
Sierramore Canyon. This is probably
as far west as they have been taken.

Zweifel

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Aug. 25, 1950

This morning we talked with Mr. Harvey who has lived in this region many, many years. He is quite familiar with all of the region's animals, and even has copies of Schmidt & Davis and Hobart Smith in his room home. He was here when Berry Campbell found Rana tarahumana. He knows Dr. Miller, Dr. Atch, Joe Herin and all of the rest who have been here.

He informed us that Yank's Spring was named for Yank Bartlett, who was killed at that locality by the Apaches in the 1880's. No one has lived there since then. Harvey attributes the deterioration of the adobe at Yank's spring to time, rather than Indian destruction.

Both Harvey and Forsyth collect reptiles for William Woodin. Forsyth has a Salvadora and a Cerrhonotus kingii for Woodin. This elevation (about 9000') is rather low for Cerrhonotus kingii. We captured a Salvadora hexalepis deserticola while walking back from Mr. Harvey's place.

Zweifel

Aug 25, 1950¹³⁴

We left Peña Blanca this afternoon, heading for home, drove to within about 20 miles of Gila Bend. Animals collected on the way were Phrynosoma solare, 5.1 mi E Peña Blanca Spring, Pituophis catenifer affinis DOR 1.6 mi E Cortaro and LOR 11 mi W Cortaro, Pima Co., and ~~Coluber flagellum~~ DOR

Aug. 26, 1950

Today we drove from 20 mi E Gila Bend to home (van Noy), reaching home about 9:30 PM. The only herps collected on the way were a Coluber flagellum piceus (red) taken DOR 13.4 mi E Sentinel and a small Cnemidophorus tigris aethiops shot 7.1 mi E. Sentinel, Maricopa Co., Ariz.

weird

Aug 27, 1950

The Peña Blanca area is shown on USGS Ruby Quadrangle, surveyed 1939, edition of 1942. The Alamo Canyon locality mentioned in previous notes is the unnamed canyon extending west from Peña Blanca spring to Alamo Canyon in the SE corner of the quadrangle.

Alamo canyon drains northward to the Gila River drainage while Sycamore Canyon waters eventually reach the Rio Magdalena in Sonora. Thus Rana tarahumana occurs on both sides of the divide.

The Gila which we collected in Alamo Canyon looks different from Gila ditacna of the Sycamore Canyon, and may represent a different species, being in another drainage.

From the description in Dr. Miller's paper on Gila (Copeia 1949, No. 2.) it appears that the pool in Sycamore Canyon where we collected the R. tarahumana is the same one in which he observed the Gila.

Zweifel

136
Aug 28, 1950

Nominated for the most amazing
sight of the trip: the way the
ninos carry live, struggling
Cnemidophorus by the tip of the
tail, the tail remaining intact.

Native Names for Animals

- Thalerophilis = culebra verde
Constrictor = elimarwa
Hypsiglena = vibronita
Drymarchos = culebra prieta
Micruroides = coral or coralillo
Sonora samula = "
Oxybelis = culebra quirote (viesnudo)
Rhinchocheilus = coral or coralillo
Bufo = sapo, sapita
Agalychnis = rana verde (unguentosa)
Leptodactylus = ranita
Myiosternus = Tortuga (seems to have no
specific name) ^{some say} Tortuga de agua
Holbrookia } Perrito
Callisaurus }
Salpatorus (large) = cacharon
Salpatorus (small) }
Urosaurus } cachara
Anolis }
Coluber = chio terra (also used for Oxybelis)
Phrynosoma = camaleón
Heloderma = escorpión
Cnemidophorus = quiro
Rabbit = conejo, liebre
Badger = tejón
Trimorphodon = sibora arda
Leptochloa = "

Frogs & Toads collected in Sonora
 Aug 3-21, 1950

<u>Scaphiopus couchii</u>	7
<u>Bufo punctatus</u>	4
<u>Bufo alvarius</u>	5
<u>Bufo mazatlanensis</u>	19
<u>Bufo horribilis</u>	2
<u>Aquicela daemiana</u>	11
<u>Amphibia baudini</u>	3029
<u>Scotodactylus</u>	39
<u>Pteronotus fodiens</u> (X)	28
<u>Rana pipiens</u>	4

Total individuals 123

Snakes collected in Sonora,
exclusive of Murciola, August
3-21, 1950

	<u>Lampropeltis getulus</u>	
1.	<u>Amphispeltis</u> <u>corais</u> <u>rubra</u>	1
2.	<u>Thamnophis eques</u>	1
3.	<u>Thamnophis macrostemma</u>	1
4.	<u>Hypsiglena ochrochyncha</u>	1
5.	<u>Rhinocercus lecontei</u>	1
6.	<u>Salvadora hexalepis deserticola</u>	1
7.	<u>Crotalus flagellum piceus</u>	6
8.	<u>Xyloplexis desertorum</u>	1
9.	<u>Phyllorhynchus brownii fortis</u>	1
10.	<u>Crotalus atrox</u>	2
11.	<u>Crotalus tigris</u>	2
12.	<u>Chionactis occipitalis palmaris</u>	1

total individuals 19

Snakes collected at Huacabamba,
August 6-19, 1950

<u>Thalerophis diplatropis</u>	28 (2*)
<u>Drymarchos corais rubrus</u>	18 (2*)
<u>Oxybelis aeneus</u>	15 (1*)
<u>Thamnophis eques</u>	9
<u>Constrictor constrictor</u>	8
<u>Micruroides diastoma</u>	1
<u>Micruroides euryxanthus</u>	3
<u>Hypsiglena ochrochyncha</u>	3
<u>Leptodiera sphenopiata</u>	2 (1*)
<u>Uromorphodon (lambe?)</u>	2
<u>Rhinocrocheilus lecontei antoni</u>	2
<u>Sonora aemula</u>	1
<u>Tamnopeltis dolia nelsoni</u>	1
<u>Salvadora hexalepis deserticola</u>	1
<u>Coluber bilineatus</u>	3 (1*)
<u>Coluber flagellum</u>	3
<u>Coluber striolatus</u>	3
<u>Eyalopion desertorum</u>	1

Total individuals 104

* Those collected by Norris or myself. Rest by purchase.

Lizards collected in Sonora,
August 3-21, 1950

1.	<u>Sceloporus clarkii</u>	39
2.	<u>Sceloporus nelsoni</u>	11
3.	<u>Holbrookia maculata</u>	43
4.	<u>Callisaurus draconoides</u>	17
5.	<u>Urosaurus</u> (2 sp?)	22
6.	<u>Phrynosoma solare</u>	4
7.	<u>Ctenosaura hemilopha</u>	13
8.	<u>Anolis</u> (<u>nebuloides</u> ?)	4
9.	<u>Phyllorhynchus tuberculatus</u>	3
10.	<u>Cnemidophorus sackii</u>	20
11.	<u>Cnemidophorus tigris aethiops</u>	3
12.	<u>Heloderma horridum</u>	4
13.	<u>Eumeces callisephalus</u>	1

Total individuals 184

Turtles collected in Sonora,
Aug 3-21, 1950

- | | | |
|----|----------------------------------|----|
| 1. | <u>Kinosternon integrum</u> | 18 |
| 2. | <u>Pseudemys scripta hiltoni</u> | 1 |
| 3. | <u>Ecemyda pulcherrima</u> | 2 |

total individuals 21

Snakes collected in Arizona,
Aug. 21-26, 1950

1.	<u>Pituophis catenifer affinis</u>	3
2.	<u>Salvadora hexalepis deserticola</u>	
3.	<u>Coluber flagellum pum</u>	1
4.	<u>Thamnophis elegans</u>	<u>7</u>
		12

Lizards collected in Arizona,
Aug 21-26, 1950

1.	<u>Cnemidophorus tigris aethiops</u>	1
2.	<u>Phrynosoma solare</u>	1
3.	<u>Holbrookia maculata</u>	3
4.	<u>Cnemidophorus calliscephalus</u>	1
5.	<u>Sceloporus jarrovi</u>	20
6.	<u>Urosaurus ornatus</u>	1
		<u>27</u>

Amphibians collected in Arizona
Aug 21-26, 1950

1.	<u>Rana tarahumarae</u>	18
2.	<u>Rana pipiens</u>	6
3.	<u>Hyla arenicolor</u>	3
4.	<u>Scaphiopus (hammondi?)</u>	12
5.	<u>Bufo punctatus</u>	5
6.	<u>Microhyla o. mazatlanensis</u>	1
		<u>45</u>

Zweifel

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Turtles collected in Arizona,
Aug 29, 1950

1. Diurosternus sonoriensis

4

7 6 (Fruit day, only leaf day)

- 1 *Thalerophilus diplotropis* *
- 1 *Constructus constructus*

Aug 7

- 1 *Thamnopis eque*
- 1 *Hyssiglena ochrochrysa*
- 1 *Dysmarcus corais rabida*
- 1 *Micmroides euryanthus*
- 2 *Thalerophilus diplotropis*

Aug 8

- 1 *Coluber flagellum*
- 1 *Thalerophilus diplotropis*
- 1 *Sonora aemula*
- 1 *Oxybelis aeneus* - *Culebra Quirós*

Aug 9

- 2 *Constructus constructus*
- 1 *Hyssiglena*
- 2 *Thamnopis eque*
- 1 *Thalerophilus diplotropis*
- 1 *Dysmarcus corais*

Aug 10

- 1 *Rhinorhynchus lecontei*
- 1 *Micmroides euryanthus*
- 3 *Thalerophilus diplotropis*
- 1 *Oxybelis aeneus*

Aug 15

- 1 Constrictor con
 1 Drymarchon cor
 1 Thamnophis eq
 3 2 4 Thalerophis dipl.
 1 ~~Thalerophis~~

Aug 16

- 1 3 0 Thalerophis (1*)
 1 Coluber flag. (+ 5, ~ clarkii)
 2 Oxybelis
 1 Drymarchon
 1 Thamnophis eques

Aug 17

- 2 4 Thamnophis (+ Bufo magat)
 5 3 3 4 Drymarchon (Sulzer + Magat)
 4 2 4 Oxybelis
 1 Coluber bilineatus
 4 3 4 Thalerophis
 1 Coluber striolatus

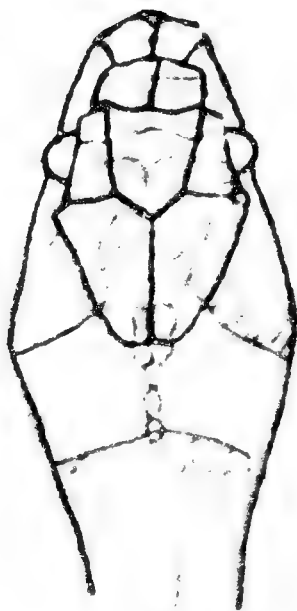
2 Constrictor constrictus

Aug 18

- 1 Rhenocentron carteri (Henderson)
 4 3 2 0 Thalerophis diplodactylus
 1 Drymarchon corais
 1 Micruroides
 1 Coluber lateralis

TRIMORPHODON, GUIRACORA, SONORA

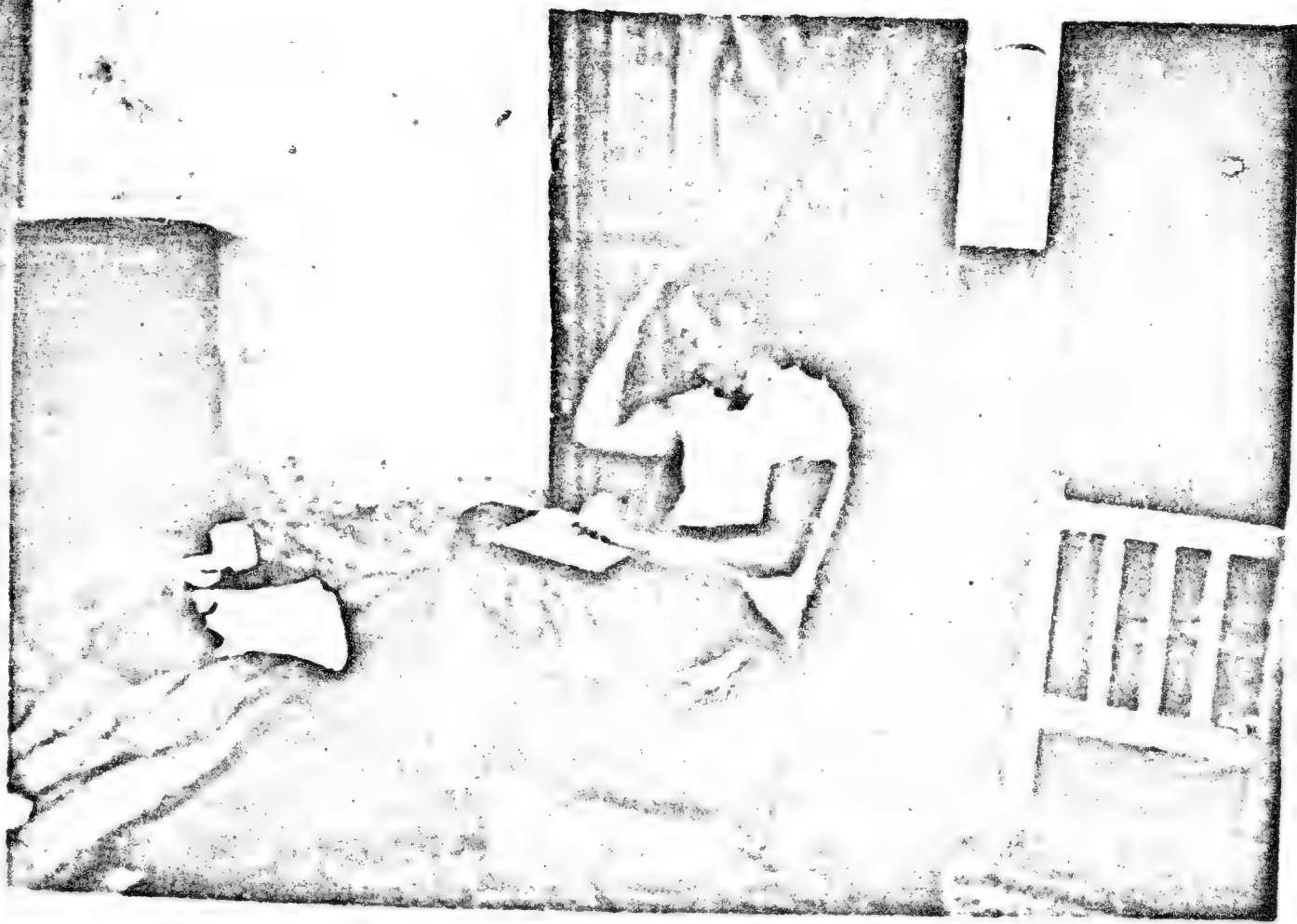
1522 K.S. NORRIS, 20 BODY BLOTCHES, 10 ON TAIL.
232 VENTRALS, 89 SUBCAUDALS. ♂



1182 P. ZWEIFEL, 19 BODY BLOTCHES, 7 ON TAIL
234 VENTRALS, 69 SUBCAUDALS.

July, 1950

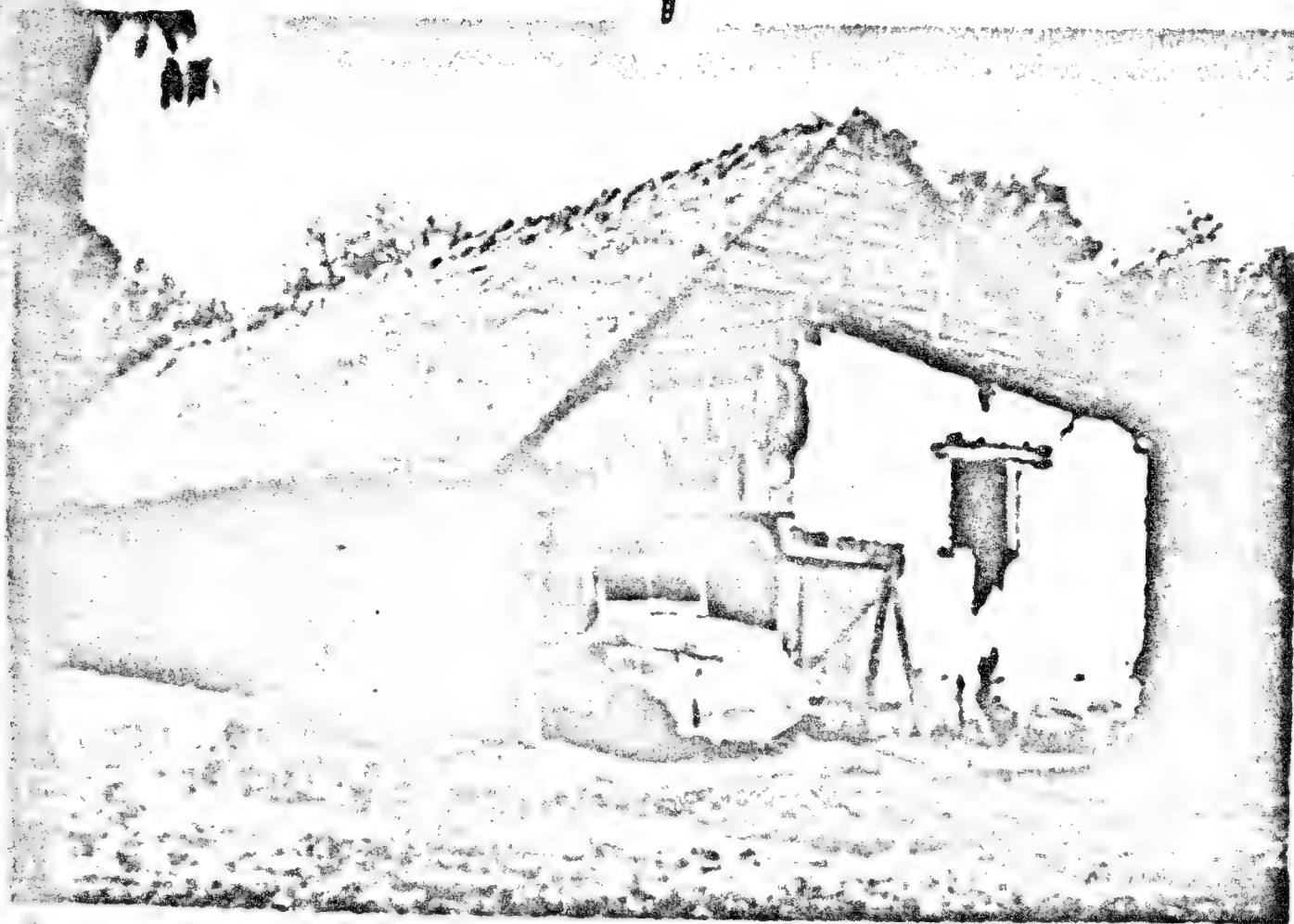
148



Ken Morris: Picture shows much of necessary
equipment for collecting at Herioka, including
Bugbane, dehydrating machine, chair, advertising,
water, note book

1950

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Building in which we established base.



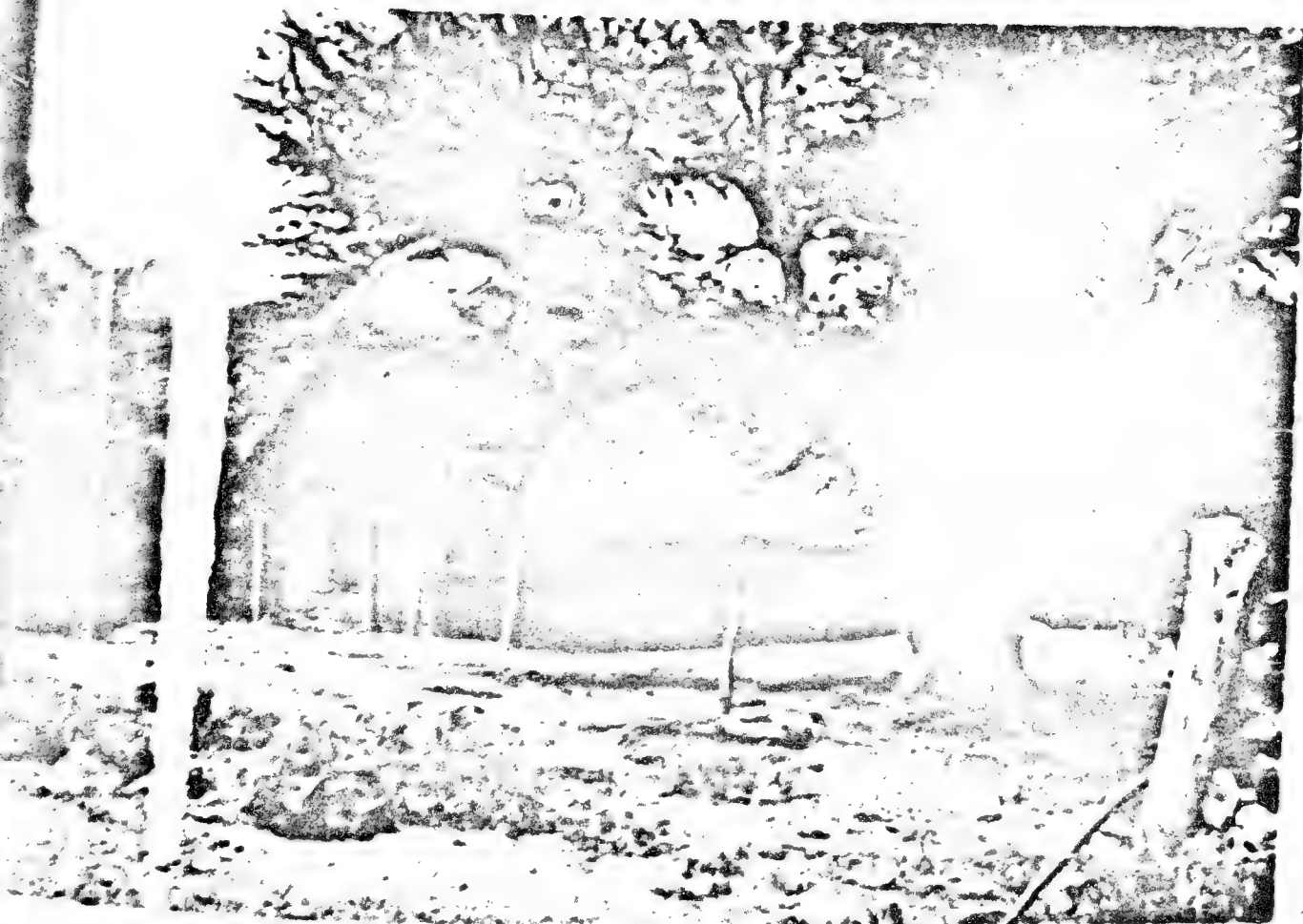
Before for sale.

6, 1950

150



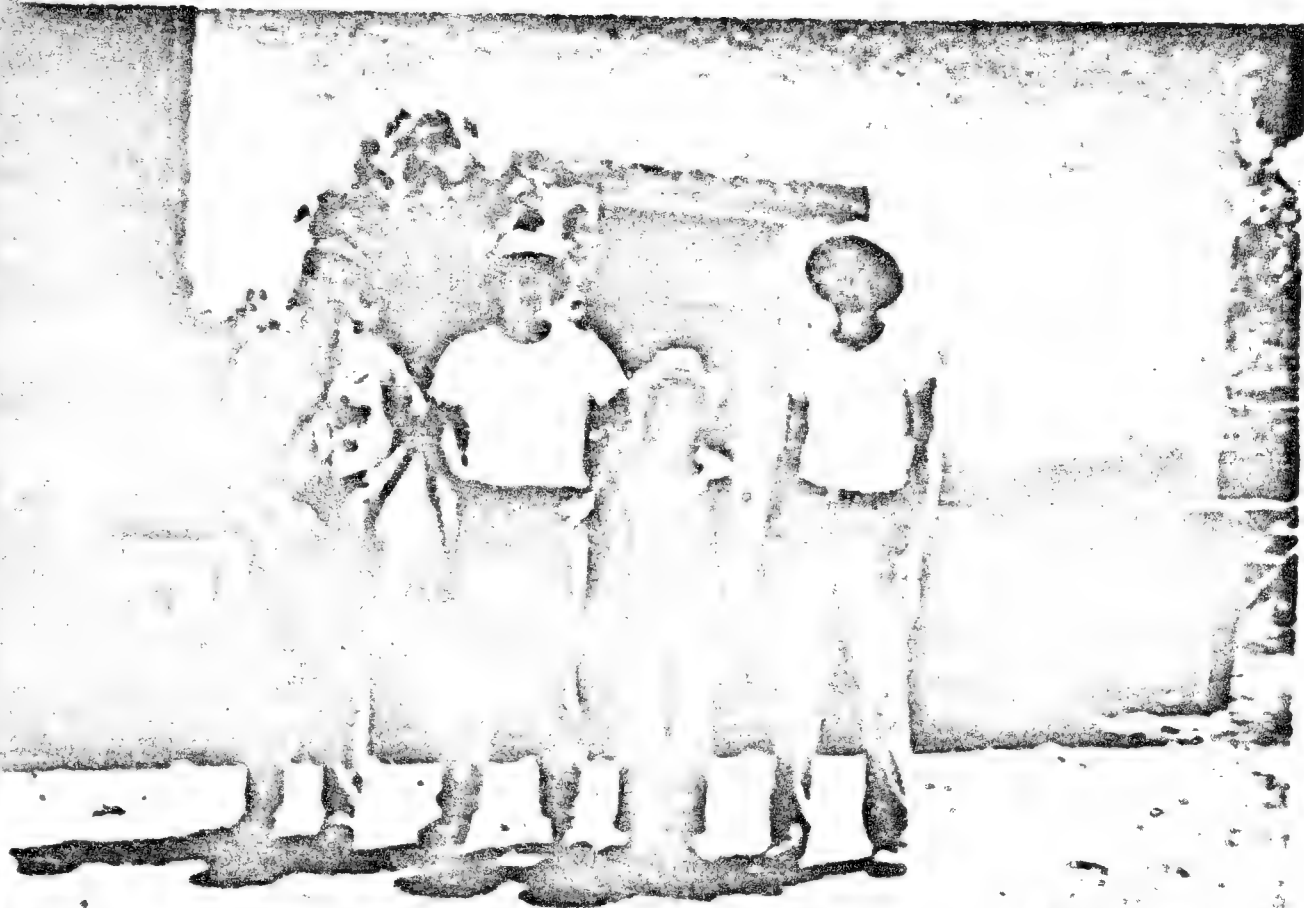
Ranchhouse at Guiraca



Native home at Guiraca

is, 1950

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Ken Morris, R. Zweifel, Gayle Montgomery, Bill Rader



Anaya Huasteca: The trees are Taxodium mucronatum
Leptodactylus is common here.

Drove today north into Lake County to investigate some Tampropectis zonata localities.

Stopped for a few minutes by the Russian River just north of the Mendocino-Lake County line. A few minutes walk along the riverbank and along tributary Lick Creek disclosed no frogs. Water temperatures in the river and creek were 19.6 and 19.5°C respectively. The air at 4' was 15.5°C, the weather clear. This was about 10:00 AM. Lots of Sceloporus.

Hopland, Mendocino County:

The hills surrounding the valley in which Hopland is located are covered with thick oak woodland. Probably the L. zonata recorded from Hopland did not come from the valley, but from somewhere in the surrounding hills.

Hopland - Lakeport road, 6 miles west of junction with State Hwy 29, Lake Co.

This is reasonably close to the "4 mi SW Lakeport" locality, and probably is the same vegetational belt. The general physiography of the region is that of

ripe

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Oct. 1, 1950

thick chaparral. Common plants are digger
pines, holcus, meryaneta, umbellata,
and scrub oak.

A few miles south of Lakeport
highway; it enters the coniferous forest
and continues off and on in the element
south to the vicinity of St. Helena,
Napa County.

Lake Co.
4.6 mi N. Hoberg, ~~Napa Co.~~, Calif.

Plants noted at this station were
yellow pines, Douglas fir, oak (Q. garryana?)
and ash (Fraxinus oregana),
myrsine and meryaneta. Elev. 2960'

Lake Co.
1.2 mi N. Hoberg, ~~Napa Co.~~, Calif.

A DCR adult Tramphos elegans elegans
was collected here. Same plant association
as 4.6 mi N. Hoberg.

Twifel

Nov. 26, 1951 154

Napa County, Calif.

Trip with Dick Woodin.

1.8 mi N Napa, Napa Co., Calif.

Two Batrachoseps attenuatus found here under rocks and boards in oak woodland.

0.6 mi NE Napa, Napa Co., Calif.

Batrachoseps collected here.

10.4 mi NE Napa, 19.6 mi S Monticello

Two Aneides lugubris (an adult and a juvenile) were found in the digger pine - oak woodland. The adult was beneath bark on a fallen oak log. The juvenile crawled out of a crevice in the same log. Two Batrachoseps were collected nearby.

Road junction 6 miles S Monticello

Seven Batrachoseps beneath the bark and on the ground beneath fallen digger pine logs. An adult Triturus was beneath a piece of wood beside a small, temporary pool.

reife

Nov. 26, 1955

7.5 mi N Calistoga, Napa Co., Calif.

A few minutes collecting here yielded
Ambystoma langabro, 3 Ensatina eschscholtzii,
and a series of Batrachoseps. The
salamanders were found beneath
fallen Douglas fir bark and logs.
The surrounding forest is largely com-
posed of Douglas fir, madrone, and
cane.

Catalogue
1951

1306 - 1641

R. Zweifel

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Catalogue

Jan. 29, 1950

Mucholland Drive, 0.8 mi W E Toiyanga Canyon
Blind, Santa Maria Mtns, S. G. Co., Calif

1307 Eumeces skiltonianus

0.8 mi W. Toiyanga Rd Feb. 5, 1951

1308 Eumeces skiltonianus

1309 " "

Feb 10, 1951

Arroyo Hondo, 8-10 mi. SE Livermore,
Alameda Co., Calif.

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1310 Aneides lugubris

1311 " "

1312 " "

Feb. 25, 1951

Armstrong Redwoods State Park
Sonoma Co., Calif.

1313 Eneateria eichscholtzii (xanthopteryx)

1314 " "

1315 " "

1316 " "

1317 " "

1318 " "

Feb. 25, 1951

Armstrong Redwoods State Park
Sonoma Co., Calif

1319 Ematina eschscholtzii (xanth x oregon)

1320

1321

6 mi. S Cazadero, Sonoma Co., Calif

Feb. 25, 1951

1322 Anelides flavipunctatus

1323 Ematina eschscholtzii (xanth x oregon.)

1324

1325

1326

1327

1328

1329

1330

1331

1332

1333

1334

Catalogue

Mar. 9, 1951

0.5 mi. W Skaggs Springs, Sonoma Co.,
Calif.

- | | | |
|------|------------------|------------------------------|
| 1335 | <u>Eumeces</u> | <u>skiltonianus</u> |
| 1336 | " | " |
| 1337 | <u>Diadophis</u> | <u>amabilis occidentalis</u> |
| 1338 | " | " |
| 1339 | <u>Aneides</u> | <u>flavipunctatus</u> |
| 1340 | " | " |
| 1341 | " | " |
| 1342 | " | " |
| 1343 | " | " |
| 1344 | " | " |
| 1345 | " | " |
| 1346 | " | " |
| 1347 | " | " |
| 1348 | " | " |
| 1349 | " | " |
| 1350 | " | " |
| 1351 | " | " |
| 1352 | " | " |
| 1353 | " | " |
| 1354 | <u>Aneides</u> | <u>lugubris</u> |
| 1355 | " | " |
| 1356 | " | " |
| 1357 | " | " |

P. Zweifel

Catalogue

Mar. 9, 1951

22 mi (by road) W Skaggs Spring,
Sonoma Co., Calif.

- 1358 Aneides flavipunctatus
 1359 Ensatina eschscholtzii
 1360 " "
 1361 " "

16 mi (by Road) W Skaggs Springs
Sonoma Co., Calif.

- 1362 Triturus rivularis

^E
4.3 mi W and 0.9 mi N Mispitas, Santa
Clara Co., Calif.

Mar. 17, 1951

- 1363 Eumeces skiltonianus
 1364 Sceloporus occidentalis

^E
4.3 mi W and 1.9 mi N Mispitas, Santa
Clara Co., Calif.

- 1365 Eumeces skiltonianus
 1366 " "
 1367 " "
 1368 " "
 1369 " "
 1370 " "

Catalogue

Mar 17, 1951

(locality continued)

1371 Ensatina eschscholtzii xanthoptica

1372

57648

1373

1374 Aneides lugubris

4.3 mi ^E and 2.6 mi N. Milpitas,
Santa Clara Co., Calif.

1375 Eumeces spilonotus

1376

1377

Aneides lugubris

1378

1379

1380 Ensatina eschscholtzii xanthoptica

1381

1382 Rana aurora draytoni

4.6 mi E and 2.0 mi N Milpitas,
Santa Clara Co., Calif.

1383 Pituophis c. catenifer (skelatonized)

Zoufel

199

Catalogue

Mar. 18, 1951

2.3 mi W San Bruno, San Mateo Co., Calif.

- 1384 Thamnophis sirtalis (ordinatus)
1385 " " "
1386 " " "
1387 " " "
1388 " " "
1389 Coluber constrictor mormon (skeltonized)
1390 Batrachoseps attenuatus
1391 " "
1392 " "
1393 " "
1394 " "
1395 " "
1396 Ancides lugubris
1397 Hyla regillii

San Antonio Creek, 0.5 mi S and 2.3 mi W
La Honda, San Mateo Co., Calif.

- 1398 Rana bayliffi
1399 " "
1400 " "

Camp Calatre, Santa Lucia Creek,
Monterey Co., Calif.

- 1401 Rana bayliffi (collected by Mrs D. Smith)

R. Zweifel

Mar. 29, 1951 ²⁰⁰

Catalogue

Pine Canyon, Mt. Diablo, Contra Costa Co., Calif.

1902 *Eumeces skiltonianus*

1903 *Diadophis amabilis amabilis*

7.4 mi SE Clayton, Contra Costa Co., Calif.

1904 *Rana boylei*

1905

Mar. 30, 1951

Tilden Park, Contra Costa Co., Calif.

1906 *Thamnophis elegans terrestris* (coll. J. C. Ray)

April 8, 1951

6.3 mi SSE Clayton, Contra Costa Co., Calif.

1907 *Rana boylei*

7.1 mi SSE Clayton, Contra Costa Co., Calif.

1908 *Rana boylei*

Fish Ranch Road, Berkeley Hills, Alameda Co.

1909 *Thamnophis elegans terrestris*

1910

7 July

Apr. 15, 1911

Catalogue

13 mi SSE Clayton, Contra Costa Co., Calif.

141 *Funa* *curva*

142

143 *Funa* *boylii*

144

145

146

147

148 *Leucomphus* *legum* *atratus*

14 mi SSE Clayton, Contra Costa Co., Calif.

149 *Leucomphus* *legum* *atratus*

R. Zweifel

April 29, 1951

Catalogue

1.8 mi S Little Rock Dam, San Gabriel Mtns.,
Los Angeles County, Calif. 3200'

- 1920 Thamnophis elegans hammondi (skeltoni)
1921 Uta stansburiana
1922 " "

3.6 mi SSE Little Rock Dam, San Gabriel Mtns.,
Los Angeles Co., Calif. 3500'

- 1923 Thamnophis elegans hammondi
1924 " "
1925 Hyla arenicolor
1926 " "
1927 " "
1928 Rana boylei muscosa

Little Rock Ck at Base Mtn. Ck, San Gabriel
Mtns., Los Angeles Co., Calif. 3600'

- 1929 Hyla arenicolor
1930 " "
1931 " "
1932 " "
1933 " "
1934 " "
1935 " "
1936 " "
1937 " "
1938 " "
1939 Rana boylei muscosa

P. Zweifel

April 23, 1951

Catalogue

Sycamore Camp Ground, Little Rock Creek,
9000', San Gabriel Mtns, Los Angeles Co, Calif

1990	<u>Rana</u>	<u>boylei</u>	<u>muscosa</u>
1991	"	"	"
1992	"	"	"
1993	"	"	"
1999	"	"	"
1995	"	"	" (dehydrated)

April 26, 1951

East Fork, San Gabriel River, 3.0 mi from
Camp Renison, Los Angeles Co, Calif

1996	<u>Rana</u>	<u>boylei</u>	<u>boylei</u>
1997	"	"	"
1998	"	"	"
1999	"	"	"
1950	"	"	"
1951	"	"	"
1952	"	"	"

East Fork, San Gabriel River at Cattle
Canyon, Los Angeles Co, Calif.

1953	<u>Rana</u>	<u>boylei</u>	<u>boylei</u>
1954	"	"	"

R. Zweifel

April 26, 1951

Catalogue

North Fork, San Gabriel River, 3.7 mi N
Camp Rincon, Los Angeles Co., Calif.

1455 Rana boylei boylei

1456

1457

April 28, 1951

Twin Lakes, Tehachapi Mtns., Kern Co., Calif.

1458 Hyla regilla

1459 Sceloporus occidentalis lewisi

1460

1 mi E Twin Lakes, Tehachapi Mtns., Kern Co.

1461 Bufo boreas halophilus

16.1 mi. W and 5.7 mi NNW of Rosamond, Kern
County, California

1462 Xanthusia vigilis

1463

1464

1465

Catalogue

April 25, 1951

1/2 mi E Lake Arroya, Tilden Park, Contra Costa County, Calif

- 1466 Diadophis amabilis amabilis (coll. W. Woodin)
 1467 " " (coll. W. Woodin)

April 28, 1951

2 1/2 mi. N. St. Helena, Napa Co., Calif.

- 1468 Diadophis amabilis (reared from C. Roy)

May 6, 1951

Phoenix Lake, Marin Co., Calif.

- 1469 Gerrhonotus coeruleus

3 mi WSW. Fairfax, Marin Co., Calif

- 1470 Aneides lagotis
 1471 Eumeces skistomus
 1472 " "
 1473 " "
 1474 Gerrhonotus coeruleus
 1475 Gerrhonotus multicarinatus
 1476 Diadophis amabilis

R. Zweifel

Catalogue

May 6, 1951

Alpine Lake, Marin Co., Calif.1977 Thamnophis elegansBolinas Ridge, 1 mi W road junction to
Alt. Tamalpais, Marin Co., Calif.1978 Rana boylei1979 Triturus granulosus

1980 "

1981 Eumeces skiltonianus

1982 "

1983 "

1984 "

1985 Pituophis catenifer catenifer1986 Coluber constructor mormon

1987 "

1988 Thamnophis elegans1989 Aneides lugubris

May 15, 1951

Tilden Park, Contra Costa Co., Calif.
(coll. W. Woodhams)57027
1990 Thamnophis elegans terrestris

1991 "

P. Zweifel

May 13, 1957

Catalogue

Portola State Park, San Mateo Co., Calif.

- 1492 Rana boylei
1493 " " } coll. D. Jackson
1494 " "

May 20, 1951

Skaggs Springs, Sonoma Co., Calif.
(1 mile west of)

- 1495 Aneides flavipunctatus
1496 " "
1497 Rana boylei (skeltonized)
1498 " "
1499 " "

Robinsons Creek, 5.5 mi. SSW Ukiah,
Mendocino Co., Calif.

- 1500 Rana boylei
1501 " "

8.7 mi W Willits, Mendocino Co.,

- 1502 Cassatrisa eschscholtzii oregonensis

Zweif

Catalogue

June 6, 1951

Topanga Canyon, Santa Monica Mtns,
Los Angeles County, Calif.

1503 Tamprozetia zonata pulchra
 (collected by Peter Thomsen, sent on by R. Cantor)

H. Zweifel

Catalogue

June 21, 1951

2 mi W. Suisun Crossing, San
Diego County, Calif (State Hwy 78)

504 Rhinorchilus lecontei lecontei

Suisun Crossing, State Hwy 78,
San Diego Co., Calif.

503 Rhinorchilus lecontei (clams intergrade)

Paso Piacho Public Camp, Cuyamaca
Rancho State Park, San Diego Co., Calif

June 22, 1951

1506 Uta stansburiana hesperia

Green Valley Falls Public Camp,
Cuyamaca Rancho State Park, San Diego
Co., Calif.

June 25, 1951

1507 Thamnophis elegans hammondi

1508 Rana aurora draytonii

Paso Piacho Public Camp, Cuyamaca
Rancho State Park, San Diego Co., Calif

1509 Xerhronotus multicarinatus webbi

Catalogue

June 27, 1951

1 mi. N Paso Picacho Public Camp, Cuyamaca
Rancho State Park, San Diego, Calif.

- 1510 Sceloporus graciosus vandenburghianus
 1511 " " "
 1512 " " "

Paso Picacho Public Camp

- 1513 Coluber lateralis

June 30, 1951

Los Caballos, Rancho Cuyamaca State
Park, San Diego Co., Calif.

- 1514 Coluber constrictor mormon

Paso Picacho Camp, Rancho Cuyamaca
State Park, San Diego Co., California

- 1515 Cnemidophorus skiltonianus

July 1, 1951

Yagui Pass, 2.9 mi. from Yagui Well,
San Diego Co., Calif.

- 1516 Chionactis occipitalis annulata

Catalogue

July 3, 1951

Cuyamaca Rancho State Park, 4 mi. (by road)
S Pasa Picacho Camp, San Diego Co., Calif.

1517 Ensatina eschscholtzii klauberi1518 Coluber constrictor mormon

July 5, 1951

Harper Cr., Cuyamaca Rancho State Park,
San Diego Co., Calif.

1519 Pituophis catenifer amoenus1520 Thamnophis elegans hammondi

1521 " " "

Sweetwater River, 4 mi. (by rd.) S Pasa
Picacho Camp, Cuyamaca Rancho State
Park, San Diego Co., Calif.

1522 Thamnophis elegans hammondi

1522a " " (27 embryos from 1522)

Boulder Creek, 8 mi (airline) NNW Descanso,
San Diego Co., Calif.

1523 Triturus torosus

1524 " "

1525 " "

1526 " "

1527 Salvadora hexalepis virgata

R. Zweifel

Catalogue

July 5, 1951

Paso Picacho Camp, Cuyamaca Rancho State
Park, San Diego Co., Calif.1528 ~~Myotis~~ Eptesicus fuscus

July 7, 1951

Camp Cuyamaca, Cuyamaca Rancho State
Park, San Diego County, Calif.1529 Phrynosoma coronatum

July 9, 1951

Swatwater River at Hwy 79, San Diego
County, Calif.1530 Rana aurora draytonii

July 11, 1951

Paso Picacho Camp, Cuyamaca Rancho State
Park, San Diego Co., California1531 Myotis subulatus melanorhinus

July 9, 1951

P. Zircifer

Catalogue

July 9, 1951

Boulder Ck., 8 mi. (airline) NW
Descanso, San Diego Co., Calif.

1532 Triturus torosus

1533

1534

1535

1536

1537

1538

} not preserved

July 12, 1951

Pico Picacho Camp, Anamasa Ranch State
Park, San Diego County, California

1539 Pituophis catenifer amnestus

July 13, 1951

1540 Pituophis catenifer amnestus

July 15, 1951

1541 Crotalus viridis helleri

July 16, 1951

1542 Bufo boreas halophilus

6 mi SSE Julian, San Diego
County, California

1543 Bufo boreas halophilus

Y. j. j. j.

Catalogue

July 18, 1951

Paco Pico Camp, Cuyamaca
Rancho State Park, San Diego
County, California

1544 Peromyscus boylii rowleyi1545 Myotis evotis evotis

July 19, 1951

1546 Peromyscus boylii rowleyi1547 Myotis evotis evotis

1548 " " "

1549 " " "

July 22, 1951

1550 Eumeces skiltonianus

July 28, 1951

1551 Peromyscus boylii rowleyi

July 29, 1951

1552 Pituophis catenifer annectens

1/2 mi NE Stonewall Peak, Cuyamaca
Rancho State Park, San Diego Co., Calif

1553 Eumeces skiltonianus

July 30, 1951

Gross Valley Falls Public Camp,
Cuyamaca Rancho State Park, San
Diego Co., Calif.

1554 Myotis californicus californicus

Catalogue

July 30, 1951

Loane Valley, Palomar Mountain State
Park, San Diego Co., Calif.

1555 Rana boylei mucrona

1556

1557

1558

1559

1560

1561

1562

1563

1564

1565

Paso Picacho Camp, Cuyamaca Rancho
State Park, San Diego Co., Calif.

1566 Eptesicus fuscus pallidus

July 31, 1951

1.3 mi SSE Paso Picacho Camp, Cuyamaca Rancho
State Park, San Diego County, Calif.

1567 Diadophis amabilis similis

East Mesa, Cuyamaca Rancho State Park,
San Diego Co., California

1568

Eumeces skiltonianus

Catalogue

Aug. 1, 1951

Paso Priacho Camp, Cuyamaca Rancho State
Park, San Diego County, California1569 Eumeces skiltonianus

1570 "

Aug. 2, 1951

1571 Eumeces skiltonianus

1572 "

1573 "

Aug. 3, 1951

1 1/2 miles SSE Paso Priacho Camp, Cuyamaca
Rancho State Park, San Diego Co., Calif.1574 Encyrtus eschscholtzii blanchi

1575 "

Aug. 11, 1951

1/2 mi W Paso Priacho Camp, Cuyamaca Rancho
State Park, San Diego Co., Calif.1576 Crotalus viridis helleriPaso Priacho Camp, Cuyamaca Rancho
State Park, San Diego Co., Calif.

Aug 6, 1951

1577 Pituophis catenifer annectans10 1/2 miles ESE Julian, San Diego Co., Calif.

Aug 13, 1951

1578 Crotalus viridis helleri

R. Zweifel

1950 218

Catalogue

Paseo Picacho Camp, Cuyamaca Rancho
State Park, San Diego Co., Calif.

Aug. 29, 8

1589 Cnemidophorus skiltonianus

Aug. 31

1590 Cnemidophorus skiltonianus

1591

1592

1593 Cnemidophorus tigris multicaudatus

1594 Sceloporus occidentalis bisciniatus

1595

1596

1597 Sceloporus gracilis vandenburghianus

1598

1599 Uta stansburiana hesperis

1600

1601

1602

1603

1604

1605

1606

1607

1608

1609

1610

1611

1612

1613

R. Zweifel

1961

Catalogue

Paso Priacho Camp, Cuyamaca Rancho
State Park, San Diego Co., Calif.

August 31

1614 Uta stansburiana hesperia

1615

1616

1617

1618

1619 Emmattia eschscholtzii klamathensis

Los Caballos Camp, Cuyamaca Rancho
State Park, San Diego Co., Calif.

Aug. 30

1620 Hyla regilla

Sept. 3

1621 Coluber constrictor mormon

2.5 mi. SSE Paso Priacho Camp, Cuyamaca
Rancho State Park, San Diego Co., Calif.

Sept. 3

1622 Thamnophis elegans hammondi

Sept. 11

E Fork, San Gabriel River, 3.5 mi. E Camp Roman,
Los Angeles Co., Calif.

1623 Rana boylei boylei

1624

1625

1626

1626a

Catalogue

Sept. 11

Junction of N and W forks, San Gabriel River,
Los Angeles Co., Calif.1627 Rana boylei boylei

1628

Sept. 13

Hobo Hot Springs, Kern River, Kern Co., Calif.1629 Gerrhonotus multicarinatus nebbii1630 Coluber lateralis1631 " Liasis "Oroville, Kern Co., Calif.1632 Cnemidophorus tigris tigris

Oct. 20

Robert Louis Stevensons Home,
Napa Co., 2 mi E, 1 mi S. Mt St. Helena1633 Ensatina eschscholtzii regnerensis ^{xanthoptica}1634 Aneides flavipunctatus3 1/2 mi E, 1/2 mi S Mt St. Helena,
Napa Co., Calif.1635 Rana boylei

Catalogue

2 1/2 mi. E Mt. St. Helena, AT 20, 1951
Napa Co., Calif.

1636 Rana boylei

1/2 mi W, 1/4 mi N Skaggs Springs,
Sonoma Co., Calif.

1637 Aneides flavipunctatus

1638 Aneides lugubris

1639 Rana boylei

4 1/2 mi S, 2 1/2 mi E Annapolis,
Sonoma Co., Calif.

1640 Dicamptodon ensatus

Nov., 1951

Sage Hen Creek, 3 mi NW Hobart Mills,
Nevada Co., Calif.

1641 Rana boylei sierrae (coll O. Pearson)

Journal
1951

Jan. 25, 1951

wife

Santa Monica Mtns, Los Angeles Co, Calif.Disie Camp

Last week there was a heavy rain, and the ground is still wet. The last few days have been warm (in the 80's F.); it seemed like good collecting weather. Disie Camp has been rather mangled by bulldozers, but there is still plenty of surface litter. No salamanders were found. The only reptiles seen were Sceloporus occidentalis.

Mulholland Drive, 0.5 mi E Topanga Rd

Here there is an abundance of surface litter (tar paper, wallboard, tin, etc.) on a grassy hillside and beside willows in the draw.

One adult Cnemidophorus skistoleoneus was found in dry grass beneath a piece of cardboard.

Under a piece of tar paper I found a small (SV 11") Tamias californicus which was dead but not yet decayed. There was a hole in the ventral body wall 7" back from the tip of the nose, from which protruded the tail of a skink. The tail segment was 3.4" long, 1" of which was still in the snake's stomach, where it appeared to be stuck fast.

It looks as if the lizard actually

up

Jan. 22, 1951

at its way out of the snake's stomach.
Somehow the tip of the tail became stuck,
whereupon the lizard broke off the tail
and left the dying snake behind.
The tail (which was unregenerated) had
about the same amount of blue as an adult
female or a young adult male.

Feb. 5, 1951

W. Holland Dr., 0.8 mi W Topanga Rd.

Two Cnemidophorus stictorhynchus were found
under surface litter, and an Uta stansburiana
scraped into a rodent hole.

This is the most easterly location with
in the mountains at which I have ~~seen~~^{seen}
Uta. The eastern part of the mountains (end
of Topanga Canyon) is clothed in a practically
unbroken plant cover, largely heavy chaparral.
This leaves little available habitat for the
ground dwelling Uta. However to the west
there are numerous great protruding sandstone
ledges, essentially barren of vegetation, which
break up the chaparral. In addition there
are oak-grassland valleys which also are
as a suitable Uta habitat.

Wafel

Feb. 10, 1951

Anago Rocks, Alameda Co.,
Calif.

Generally cool and cloudy, and raining
in the afternoon. Bill Wordin and I collected
3 Aneides ingulatus, 5 Leurogobius occidentalis,
and a number of Catascopus attenuatus
under rocks and logs on millerite.

One Aneides escaped into a rocky crevice.
We collected between 8.0 and 10.0 miles SE
by road from Livermore.

weifel

Feb. 23, 1951

Sonoma County

Trip with Bill Woodin to do some salamander collecting.

Armstrong Redwoods State Park,
Sonoma County

Ensatina, Batrachoseps were commonly found here beneath logs and boards in the dense redwood forest. Temperatures beneath the logs where both species were found averaged about 6°C . The Ensatina are xanthoptica x oregonensis intergrades, tending strongly toward the latter.

No frogs could be found along the stream, the temperature of which was 8.9°C .

6.2 mi. S Cazadero, Sonoma Co.

Three Ensatina were collected here.

5.5 mi. S Cazadero, Sonoma Co.

A series of Ensatina eschscholtzii (xanthoptica x oregonensis intergrades) and one juvenile Aneides flavipunctatus were collected here.

The Aneides was beneath a log at

Feb. 25, 1957

Wifel

Sonoma County

the side of a trail about 20' from a stream 6' to 8' wide. The ground about and beneath the log had been recently washed by high water.

The water temperature of the stream was 9.4°C. Bill saw two frogs (Rana boylei?); I didn't see any. In any event, they are not yet out in strength.

Batrachoseps attenuatus was common at this locality.

Mar. 22, 1951

5 mi. N and 1 mi. W of Calistoga,
Sonoma Co., Calif.

The locality stated above is airline, not road distance. This is Robert Louis Steptoe's home, an abandoned and dilapidated structure on Mount St. Helena.

The only salamanders found here were 23 Batrachoseps and a single young Ensatina eschscholtzii. The area was quite cold, snow & ice about on the ground. The temperature beneath a board which sheltered several Batrachoseps was 3.6°C .

0.5 mi. W Skaggs Springs, Sonoma Co.

Here we collected Aneides flavipunctatus, Aneides lugubris, Triturus rivularis, Sceloporus occidentalis, Eumeces skiltonianus, and Diadophis amabilis.

The surrounding hillsides are covered with a mixture of live and deciduous oaks, madrone, and manzanita. There were no conifers. The slope on which we collected had been burned over within the past few years.

Collecting beneath burned fence stakes

Zweif

Mar. 9, 1951 228

Sanoma Co., Calif.

I found 15 Aneides flavipunctatus and one Aneides lugubris. Three small Aneides found beneath bark on a fallen oak log were probably A. lugubris, although at the time they were not distinguished from juvenile A. flavipunctatus. The temperature beneath one A. flavipunctatus found was 11.2°C .

A Delosaurus found beneath a board had a body temperature of 11.8°C . The lizard was incapable of movement.

One of the skinks was beneath a board, and could move only very slowly. The other was seen at the edge of a rock under which it attempted to hide. Its body temperature was 16.2°C . One Diadophis was under the rock under which the skink tried to hide, the other Diadophis under a rock about two feet away.

I saw only 9 Batrachoseps at this locality.

Several Triturus rivularis were found at the edge of the stream. Others were seen crossing the road in the rain, both in mid- and late afternoon.

Zuerfel

229
Mar. 4, 1951

Sonoma Co., Calif.

22 mi. W (by road) Stage Springs
Sonoma Co., Calif.

Three Enantia and one Arctia flavi-
punctatus were found beneath boards
on the ground in the redwood forest.
Only about ten minutes were spent here.
This is at a YMCA camp.

Swift

230

Mar. 17, 1951

Santa Clara Co., Calif

Today Bill Woodin and I collected along Mission Ridge, east of Milpitas. We collected along the road which runs along the crest of the ridge, heading north from the junction 4.3 miles E of Milpitas.

These are grassy hillsides littered with limestone rocks of a convenient size for turning. Oak woodland is developed in the draws.

A total 9 Eumeces skiltonianus, 5 Encyrtus cochochotylus xanthopterus, 4 Aneides lugubris, 1 Rana aurora, 5 Sceloporus occidentalis, and several Batrachoseps attenuatus were collected. Many more Sceloporus and Batrachoseps could have been taken.

Seven of the snakes were found under rocks and boards; the other two were dug out of a fallen oak log.

4.3 mi E and 2.6 mi N of Milpitas there is a swiftly flowing stream which is up to 6' wide in spots. Much searching along the stream disclosed no frogs. The streamside plants (hackberry, the Umbellularia, live oak) are not particularly riparian. There are no extensive willow thickets such as might be present if the stream were permanent.

About 40' from the stream I heard a Sceloporus run into a hole beneath a root protruding from a bank. Near the

San Carlos, Calif.

Along the entrance to the hole I found 3 Leptogaster, 1 adult Scaphisoma and a small Hemaphysalis. The hole seemed to go only about 5" back into the bank.

4.6 mi E and 2.0 mi N of Tulipate by the La Grana Road and adult Leptogaster c. californicus was found under a large board.

Zenaidura

232
Mar. 15, 1951

San Mateo Co., Calif.

Skylark Blvd. 2.3 mi W. San Bruno,
at junction of road to S.F. prison

Here we collected around two ponds bordered by Eucalyptus & Salix. The surrounding hillside is grassy.

All hiemes obtained several Triturus torosus gramulosus adults and larvae. The adults were in four feet of water, the larvae in about two feet. No adults were found around the edge.

A large Thamnophis scutatus taken at the edge of the pond had eaten, tail first, a Triturus. Three smaller individuals found in the grass bordering the water had body temperatures of 25.4° , 27.8° , and 29.2° C.

Batrachoseps attenuatus were very common beneath logs. A single juvenile Aneides lugubris was also taken. Hyla regilla and Rana aurea were present.

An adult Coluber constrictor constrictor was found under a rock on a grassy hillside. The rock was roughly triangular in outline, 10" on a side and 6" deep. The snake was in a hollow which may have been part of a rodent burrow. The space was firmly closed on one end and closed by loose dirt on

Zweifel

233

San Mateo Co., Calif.

Mar 18, 1951

the other, the whole space being about 8" long. The snake was very cold (BT 10.6°C) and incapable of any rapid movement.

1.4 mi N La Honda

We spent about an hour here turning over rocks and logs and working along beside the stream (San Gregorio Creek).

I found only Batrachoseps. Bill found a single Triturus torosus in a log.

No frogs were seen. The stream was quite turbid, the water temperature 10.4°C. This is in a thick redwood-douglas fir forest.

0.5 mi S and 2.3 mi W La Honda

Here we captured 3 very small Rana boylei and lost two adults.

Hillsides are brushy with a few doug firs and redwoods in the canyons.

Zweifel

234
Mar. 25, 1959

Paso Canyon, Mt. Diablo,
Contra Costa Co., Calif.

Could find no Rana along the stream.
Perhaps it was too far upstream - the
stream may not be permanent here.

A Diadophis, an Ameiurus shastanus
and two small Ambystoma linguatum were
found under oak logs & bark on the ground.
The soil temperature beside an Ambystoma
was 14.5°C .

Another skink was seen to run into a
pile of leaves, where it escaped.

Hyla regilla were abundant around a pond.

7.4 mi. SE Clayton, Contra Costa Co., Calif.

Two of four Rana boylei seen here were
collected.

6.3 mi SSE Clayton, Contra Costa Co., Calif.

Two Rana boylei, one R. aurora and four Ayla regillia were collected here. Aurora was commonest where the riparian growth was thickest, where it actually overhung the bank of the stream. Three large clusters of R. aurora eggs were found attached to cat-tail stems in about eight inches of water at the edge of the stream. The eggs were in the stage of hatching, since when the masses were disturbed, the young tadpoles broke loose & swam out.

7.1 mi. SSE Clayton, Contra Costa Co., Calif.

7 Rana boylei were seen here, one taken (see species account). 3 Rana aurora were seen, two of these in pools under large, overhanging rocks. There is a distinct paucity of riparian vegetation here. Three Ayla regillia were found sitting on rocks in the stream.

7. Zweifel

236

April 15, 1951

Contra Costa Co., Calif.

6.3 mi SSE Clayton

Rana boylei and Rana aurora were moderately common. Five boylei and two aurora were collected and preserved within the hour with a view toward examining the stomach contents. The ecologic separation noted previously holds up. The Rana aurora eggs noted last week have almost all disappeared, the jelly masses disintegrating. The water temperature was 15°C .

A Thamnophis elegans atratus, BT 15.8°C , was found on a rock in the stream.

9.4 mi SSE Clayton

Another Thamnophis elegans atratus collected here.

Spencer

Apr. 22, 1928

Los Angeles Co., Calif.

Little Tujunga Canyon, San Gabriel Mtns.

There is no running water in this canyon nor in Pacoima Canyon where it crosses the road. A Pituophis catenifer connectens was found on the shoulder of the road in the sunlight, at 25.4°C, air 21.9°C, sand surface 30.2°C. This was along Cold Cr., about one mile from the road junction with Little Tujunga Canyon. The snake is an adult. A large racer (Lateralis?) was seen on the road nearby, but it escaped.

Devil Canyon, Santa Susana Mtns.

Where in previous years there has been water in the streambed as late as June, the stream is now dry. Sceloporus, Uta, and Cnemidophorus were observed.

Groves

238
April 23, 1951

Los Angeles County, Calif.

Little Rock Creek, San Gabriel Mtns

0.0 mi - Little Rock Dam

1.8 mi., elev. 3200' ±

The canyon floor is about 75 yards wide here. Cottonwoods and sycamores are present at the edge of the canyon, but not beside the stream, which has no trees shading it. An adult Thamnophis elegans hammondi (BT 21.8°C) was caught at the edge of the stream as were two Uta stansburiana.

No frogs were found here. The stream is eight to fifteen feet wide and averages about 6" deep.

3.6 mi., elev. 3500' ±

In a spot where the stream is rather heavily shaded by alders and cottonwoods a single Rana boylei mucrosa was found on a rock in the stream. Also collected here were three Hyla arenicolor, two Sceloporus occidentalis biserialis and two Thamnophis elegans hammondi. One of the garter snakes had a small (6") trout which it apparently had beached, although the fish looked too big for the snake.

Los Angeles County, Calif.

The hillsides surrounding this locality are in the juniper - piñon association.

5.1 mi., mouth of Bare Mtn. Canyon, elev 3600'

Ten Hyla arenicolor and one Rana boylei mucrosa, the latter from a well-shaded pool, were collected here. The plant associates are the same, except that Salix is added in the stream bottom and Arctostaphylos on the hillsides.

5.6 mi.,

An LOR Coluber lateralis escaped here.
Piñon - juniper association

7.6 mi., Sycamore Camp Ground,

6 Rana boylei mucrosa were collected and at least that many more seen, both in large pools in the stream and in the shallower riffles. Water temperatures were 14.4°C and 17.2°C .

Sycamore, alder, willow, cottonwood, Baccharis in the canyon bottom. The hillsides are piñon - juniper. Poison oak in the canyon bottom was noticed first at this station. Most of the stream below this locality is not typical.

N. Zweifel

April 23, 1951 240

Los Angeles County, Calif

R. h. mucrona terrain, since for much of the way the channel is unshaded and without deep pools. What the mucrona habitat is best developed, at Luncheon Camp, the frog are common.

April 26, 1951

East Fork, San Gabriel River, 3.0 mi. from
Camp Rimmon

Seven Rana boylei boylei collected here. Water 13.2°C , air 19.6°C . Cloudy with intermittent sunshine. Frogs were on the bank and in water at the edge of the stream and came out onto rocks to sun.

East Fork, San Gabriel River, at Cattle
Canyon

Rana boylei boylei on a rock - BT 16.9°C , rock surface 17.0°C , air 15°C . Another in the stream.

North Fork San Gabriel River, 3.7 mi. from
Camp Rimmon

Three Rana boylei boylei were collected here. This is the same spot where R. h.

Camp and Soldier Creek. ^{W-1000R}

Kern Co., California

April 28, 1951

Tehachapi Mtns.

Today Bill Reeder and I drove to the Tehachapis, intending to spend the night there and continue on to the Kern River tomorrow — but we were stopped by the weather.

From the end of the paved road 16 mi W Rosamond to Twin Lakes is about 13 miles. The road passes successively through the following plant associations: Larrea; Larrea — Yucca brevifolia; Yucca — juniper; juniper — piñon.

R. Zweifel

April 22, 1951

Tehachapi Mtns, Kern Co., Calif

There is a ranch house about 2 miles below Twin Lakes. The hillsides around this vicinity are barren, supporting only grass and a few scattered junipers.

Twin Lakes when full of water must be no more than a few hundred feet long and ten feet deep. They are dry now. The hillsides to the ~~west~~^{south} of the small valley in which the lakes are located are covered with a thick growth of live oak. The south facing hillsides are much more barren, having grass, junipers, digger pine and deciduous oak. The small valley itself has large deciduous oaks (Q. lobata?).

The weather was cool & cloudy when we were here. A large Hyla regilla and two small Sax-
otis occidentalis were the only beasts collected. The Hyla was at the edge of a cattle watering pond, the lizards under rock logs.

There is a good dirt road going ENE from the junction about 0.5 mi. E of Twin Lakes. This road goes ENE for about 5 miles past the junction where it turns over the divide and goes down into a canyon, probably ending up at Tehachapi Pass.

R. Zweifel

April 28, 1943

Tehachapi Mtns., Kern Co., Calif.

We followed this road to where it crosses the divide. This road isn't on the Auto Club Map.

0.0 mi - road junction, locked gate nearby

Grassy hillsides with a few live and deciduous oaks, digger pines. Bifid boreas under a board beside a spring.

1.5 mi

Here a small stream in a wide, shallow canyon crosses the road. There are deciduous oaks (Q. lobata?) on the canyon and live oak, piñon, and digger pine on the hillside. The aspect is quite open.

2.3 mi

Another small stream in a narrower canyon. There are yellow pines and golden oak here. These are the only yellow pines seen along this road. The air temperature here at 2:15 PM was 2.1°C. Rain falling.

3.0 mi

A marshy area known as Bear Wallow is reached by the cut-off here.

4.0 mi

A small stream with large live oaks.

A. Zweifel

April 25, 1956 244

Tehachapi Mtn, Kern Co.

and willow thickets

9.7 mi

The road turns over the divide and down into a canyon. I am not sure whether this canyon drains into the Mojave or Tehachapi side. This is a thick piñon forest with some scrub oak and digger pine interspersed. There are also Joshua trees mixed in and going over the ridge.

On the way back we stopped for a few minutes 5.7 mi from the end of the paved road (16.1 mi W Rosamond) and collected four Xantusia vigilis from beneath Joshua tree rubble.

Note: Some of the references to digger pine may actually refer to Coulter pine.

R. Zweifel

May 6, 1955

Marin Co, Calif.

Phoenix Lake

Cloudy, cool. An adult Herposiphonia serotina crossing the road had a body temperature of 16.3°C .

3 mi. WSW Fairfax, on road to Alpine Lake

We stayed here for about $1\frac{1}{2}$ hours, from 12:30 to 2:00 PM. Grassy hillside with madrone, live oak, and bay on the drive. Intermittently cloudy.

Many rocks were turned over, but only a single Arctia lugubris was found in this situation. A Diadophis was found under a 3" diameter branch on the ground.

Herposiphonia (both species), Sceloporus, Hyla, and Eumeces skiltonianus were also collected here (see Emery's account).

Alpine Lake

Thin madrone-dominated border and wood forest with a few redwoods. Cooler than at the previous station. A Sceloporus occidentalis found on the road had a body temperature of 15.4°C . The lizard was quite sluggish. A Thamnophis elegans found in a

R. Zweifel

May 8, 1951

Marin Co., Calif.

similar situation was at 15.8°C .

Rana catesbeiana was present at one end of the lake where the stream entered.

Bolinas Ridge, 1 mi. W road junction to Mt. Tamalpais

Grassy areas interspersed in Douglas fir - madrone forest.

Three Aneides lugubris were obtained - two under Douglas fir bark (fallen logs) and one beneath a rock. Triturus granulosus was present in the stream. Hyla regilla were calling. Three or four Rana boylei were seen but only one taken. Foggy and probably a little cool (air 9°C) for the Rana.

Reptiles found under covers included a Pituophis under a wooden door on the ground with an adult Gerrhonotus marmoratus, a baby Coluber constrictor mormon under a loose piece of bark on a 6" diameter log, another baby Coluber beneath a board with an Eumeces skiltonianus, a small Thamnophis elegans under a piece of tin and three other Eumeces skiltonianus under

R. Zweifel

May 6, 1957

Marin Co., Calif.

The bark of fallen Douglas fir logs
associated with Amias lugubris.

R. Zweifel

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June 21, 1951

San Diego County, Calif.

I arrived at Cuyamaca at about five-thirty PM. Past Puchos Campgrounds where I have my tent home, is in a very low Transition forest where ~~ponderosa~~ yellow pine and Kellogg oak are dominant.

About 9:15 I took off to do some night driving on the road to the Borrego Desert.

7 miles east of Julian (by road) I found a still-moving DOR Rhinocerotus. It had eaten a small mouse, probably Peromyscus.

Two miles farther on a live one was taken.

The first is good R. l. lecontei, the second tends toward R. l. clausi. The body temperature of the second was 17.8°C .

They were taken at 10:05 and 10:15 PM.

The second specimen was taken at just before (w of) sunrise crossing.

I drove on as far as Yagui well and there discovered that my gas gauge gauge read "empty". I got back to within 6 miles of camp where the gas gave out. I slept in the car and washed and hitchhiked back to camp next morning.

7/11/51

July 11, 1951

Carrizosa Ranch State Park
San Diego Co., Calif.

This morning I collected in Hager
Creek Canyon.

At the junction of Hager Creek and
the San Antonio River Cnemidophorus
tigris was common, and a single
Phrynosoma was seen. Sceloporus
occidentalis and S. orcutti were
seen in the canyon. A Pituochius
and two Xenopeltis were collected in
the canyon.

There is water in the canyon in a
series of disconnected potholes, some
of them more than three feet deep.
Wherever there is surface water not in
a pothole, it is choked up with
vegetation.

A single Rana (almost certainly anae)
was seen at one of the potholes.
Small and transforming Hyla arenicolor
were present.

R. Zweifel

July 25, 1951

Boulder Creek, 8 mi NNW Descanso,
San Diego Co., California

I spent a few minutes collecting in the creek bottom around 4:30 PM.

Four Triturus were collected and about six more seen in the stream and in pools, principally in the latter. A small Salvadora was caught in the midst of a poison oak bush by the stream. A garter snake and another unidentified snake escaped.

If there are Rana boylei anywhere in this part of the country, they should be in Boulder Creek. Next time I will try to spend a longer period of time and see if they won't turn up.

R. Zweifel

July 28, 1951

Paso Picacho Camp, Cuyamaca Rancho
State Park, San Diego County, Calif.

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Description of the camp and surroundings

The camp area lies at an elevation of about 4800 feet and includes both meadow and lower Transition Zone forest. The meadow area is covered with a thick growth of grasses, many of them non-native species. Yarrow and milkweed (Asclepias eriocarpa) are common in all open places, both in the meadow proper and in the forest where there are smaller grassy patches.

In the campground proper, the dominant tree species are black oak (Q. kelloggii), incense cedar (Libocedrus decurrens) and jeffrey pine (Pinus ponderosa jeffreyi). Coulter pine (Pinus coulteri) and canyon oak (Q. chrysolepis) are also present, but are not so prominent locally in the camp area as elsewhere in the park.

Coffeeberry (Rhamnus), chokecherry (Prunus demissa), mountain lilac (Ceanothus palmeri) ~~and~~ manzanita (Arctostaphylos), and squaw bush (Rhus trilobata) are the more prominent shrubs. In places the manzanita forms extensive thickets which are favored by the Cnemidophorus.

The soil is all granitic, although where black oaks are prominent, a rich humus forms.

Richard Ziegler

Aug. 20, 1951

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E side of North Peak, Inyo National Forest,
Inyo Co., Calif.

A line of 23 *Peromyscus maniculatus* set traps
caught one ~~*Peromyscus maniculatus*~~ and one *Peromyscus maniculatus*.
Most of the other traps were empty.
The traps were set on a grassy hillside
about 100 yards below the edge of the
pine-oak forest. Granite boulders &
outcroppings dot the hillside. The mice
were caught beside but not on boulders.

R. Zweifel

Aug. 25³, 1951

Paseo Priacho Camp, Cuyamaca Rancho
State Park, San Diego Co., Calif.

At about 2:00 AM Tuesday morning (August 25th) it began raining. By 8:00 AM 1.26" had fallen. For the rest of Tuesday and most of Wednesday it continued to drizzle and was quite foggy. The total rainfall for the storm was 1.71".

On Tuesday night I walked around for about two hours looking for salamanders, but though conditions seemed fine (air temperature 15°C) I could find none.

The sky was clear Thursday and today (Friday) but the nights have been cold, down at least to 6°C.

This morning I indulged in two hours of intensive rock turning and log rolling. The results are listed below:

- 1 Ensatina eschscholtzii klauberi
- 3 Sceloporus occidentalis brevirostris
- 2 Sceloporus graciosus sandersonianus
- 20+ Uta stansburiana hesperis
- 3 Eumeces skiltonianus
- 1 Cnemidophorus tigris multicaudatus

Species accounts have been written for some of these.

R. Zweifel

Sept. 3, 1954 254

Guaymas Rancho State Park and vicinity

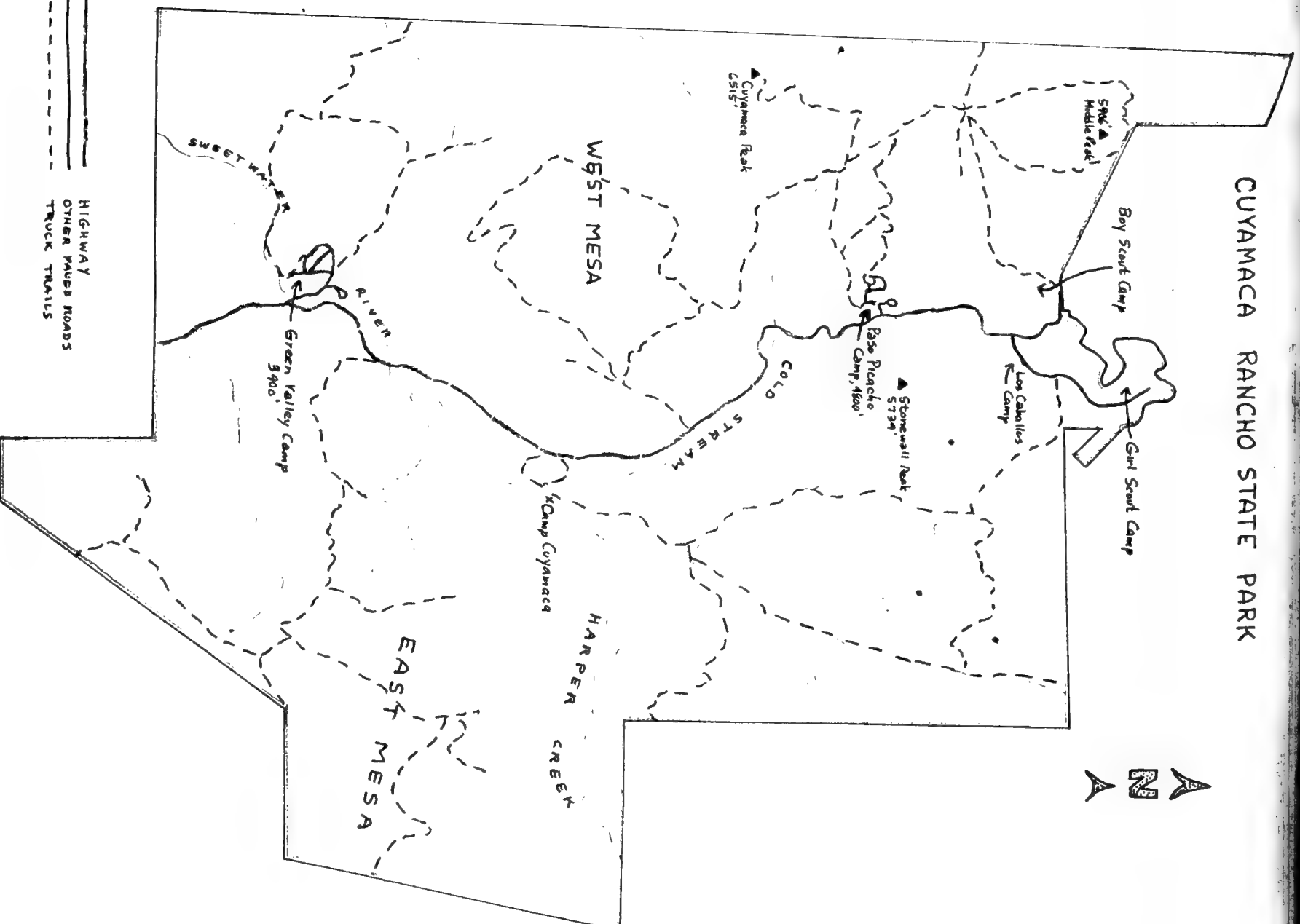
Snakes seen or collected, June 22 - Sept. 3, 1954

1. Pituophis catenifer amarens (12).
2. Thamnophis elegans hammondi (6).
3. Crotalus viridis helleri (4).
4. Coluber constrictor mormon (3).
5. Coluber lateralis (2).
6. Salvadora hexalepis mrigueti (1).
- 6.7. Eriodophis amabilis similis (1).
- 6.8. Tamrionops getulus californicus (1).

Dates of collection or observation

1. Pituophis: 6-22; 6-25; 6-27; 7-5; 7-9; 7-12,
7-13; 7-17(2); 7-29; 8-1; 8-6;
2. Thamnophis: 6-25; 7-5(3); 7-11; 9-3.
3. Crotalus: 7-15; 8-11; 8-14; 8-18.
4. Coluber constrictor: 6-30; 7-3; 9-3.
5. C. lateralis: 6-22; 6-27
6. Salvadora: 7-5
7. Eriodophis: 7-31
8. Tamrionops: 8-16.

CUYAMACA RANCHO STATE PARK



HIGHWAY
OTHER MAJOR ROADS
TRUCK TRAILS

R. Zweifel

Sept. 25, 1951

San Gabriel River, Los Angeles Co., Calif.

Frog hunting this morning in San Gabriel Canyon. Four adult Rana boylei boylei and one juvenile collected 3.4 mi E. State (39) on E fork road. Water 16.8°C , air 4' up 18.4°C at 9:00 AM, DST. This is the same spot where I have collected on a number of previous occasions.

Two adult Rana boylei boylei were taken ~~at~~ exactly at the confluence of the north and west forks of the San Gabriel River.

At the overlap locality on the North Fork I could find neither boylei nor muscosa. An adult Coluber lateralis seen here escaped into a hole beneath a boulder.

R. Zweifel

Sept. 13, 1957 257

Kern Co., California

The object of today's trip was to collect some Rana boylei in the Kern River. Our first stop was at Hobo Hot Springs. The mountainsides at this locality are covered with a sparse growth of digger pine. By the river, cottonwood and sycamore are dominant. Rana catesbeiana was common, but no yellow-legged frog could be found. Two striped racers were found by the stream. A large Xenohyla multicarinatus found in the stream may have just escaped from one of the racers, as the lizard's tail had been freshly lost and the snake bore tooth marks on its neck.

Another stop was made at the point where the Kern River crosses the road just north of Arabella. Here the river passes through a wide, arid valley. Again only R. catesbeiana could be found. Hyla regilla was also present.

We next drove back up the South Fork to Omuzz. Here the stream is about 12' wide and deeply shaded by cottonwoods. Hyla regilla was the only frog found here. A small Cnemidophorus tigris which looks most like the desert form was collected by the stream.

Kenia Co. Calif.

Returning back to Lubella, we took the road which passes over the crest of the Kenia Mountains to Glenville. Most of the way up from the river, the soil is in the digger pine - blue oak association, but at Elle Luna it passes into a thick forest of various trees, white oak, yellow & yellow pines, maple pines and black oak.

Elle Luna, which is about a mile past Brownhorn Winn creek, looked like a particularly good place for Quercus, but again none could be found.

Glenville is again in the digger pine - blue oak association.

R. Zweifel

Oct. 20, 1951

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Napa Co., Calif.

Today Bill Riener, Bill Woodin and I took a trip north into Napa and Sonoma Counties. Our first stop was at the Robert Louis Stevenson Home, 2 mi E and 1 mi S Mt St Helena, Napa Co. Here we collected by turning over debris about the home and along the path to the Silverado Mine. We found one Anides lugubris, three A. flavipunctatus, four Ensatina and several Batrachoseps.

From the Stevenson Home we went to a ranch ("Montesol") 3 1/2 mi E 1/2 mi S Mt. St. Helena where the presence of numerous aquatic tritons had been reported. The Tritons were present in artificial, spring fed pools some of which also contained trout. 29 Tritons were taken. A single Rana boylei was found in the overflow stream from one of the ponds. Batrachoseps were taken nearby in the douglas-fir - yellow-pine forest, in an area of very sparse understory. Another Rana boylei was taken 2 1/2 mi E Mt St Helena.

Bear tracks were seen at Montesol. They had been there since the last rain.

R. Zweifel

Oct. 20, 1951
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Sonoma Co., Calif.

On the Way to Skaggs Springs, we noted a DOR Thamnophis sirtalis 4 mi W, $\frac{1}{2}$ mi N Geyserville, Sonoma Co., and a fresh DOR T. elegans aquaticus 2 mi E, 2 mi N Skaggs Springs. $\frac{1}{2}$ mi W, $\frac{1}{4}$ mi N Skaggs Springs we collected one A. ingubris, one A. flavipunctatus and a small Rana boylei.

Other collections included 1 Sceloporus occidentalis and 2 Eumeces skiltonianus 5 $\frac{1}{2}$ mi W, 1 mi S Skaggs Springs and a young Diemastodon 4 mi S, 2 $\frac{1}{2}$ mi E Annapolis.

Species Accounts
1951

Ensatina escholtzii blairi

July 3, 1951

Cuyamaca Rancho State Park, 4 miles (by road)
S. Pass Pecos Camp, San Diego Co., Calif.

At about 1:00 PM. This afternoon I attempted to turn over a log, but the log split in the middle and revealed a small *Ensatina*. This was an oak log, in an open grassy area dotted with live oak (*Quercus agrifolia*) and Jeffrey pine. The inside of the rotten log was moist, but the soil beneath it was far too dry for salamanders. At the best, this was an unlikely looking place for salamanders, especially since the shade temperatures even up at Pecos Pecos have been up in the 80's (F.) at mid-day for the last few days.

Ensatinia eschscholtzii klauberi

Aug 3, 1951

1½ mi SSE Paso Priacho Camp, Cuyamaca
Rancho State Park, San Diego Co., Calif

At 10:30 AM I split a large (3' diameter x 6' long) rotten oak log and uncovered an adult male Ensatinia in the cool, decayed material in the middle of the log. A little more digging revealed a large, tailless female in the rotten wood next the lower bark. The interior of the log seemed relatively cool, but the decayed wood was not even moist enough to cling together when squeezed.

The surrounding forest is composed of coulter pine, jeffrey pine, and black oak with a few incense cedars.

The ground is quite dry. — shows no sign of the rain which fell 6 days ago.

Elevation 4450 feet.

R. Zweifel

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Ensatina eschscholtzii klauberi

Aug. 18, 1951

Descanso, San Diego Co., Calif.

At a campfire program three weeks ago I showed a slide of Ensatina and after the program a family from Descanso told me that they had such salamanders around their place. I expressed a desire for them, and tonight they showed up with one. The day on which I talked to them (July 28th) was the day of our best rainstorm^{to date}. On that evening they found the little salamander crawling into their house under a door. They kept it for three weeks for me - until tonight (Mrs. Silva, Descanso).

R. Zweifel

Aug. 31, 1951

Ensatina escholtzii kentana

264

Two Puccho Camp, Laguna Ranch
State Park, San Diego County, Calif.

2 sub-adult, found beneath a log 6' long
by 1' in diameter. The salamander was
in a small depression in the earth
beneath the log. The log was about 6' from
a stream in a gully at the edge of a
meadow. The meadow is bordered by
pine-oak-ironwood cedar forest. The sala-
mander was not in the most moist
spot available, but rather was in a dryer
location. (See journal for account of
weather last few days).

Triturus torosus

Boulder Creek, 8 mi NNW (airline)
from Descanso, San Diego Co., Calif.

Four salamanders were collected and about six more seen in pools in the stream and in the stream itself. In many places there is no surface water, only disconnected pools. The pool containing the largest number of salamanders (about six seen, two captured) was 10' long, 8' wide and $1\frac{1}{2}$ ' deep. Temperature 24.1°C. The stream bed is made up of stones, averaging 6-8' in diameter, although much larger rocks are common. Cottonwood, willow, sycamore and poison oak are common in the stream bottom, chamise and live oak on opposite hillsides.

Two of the four salamanders died of the heat while being transported home. These four salamanders show little or none of the wartiness of "klauberi".

July 9, 1951

Same spot revisited. Seven salamanders collected. Water level even lower than before. Salamanders certainly aren't very warty.

R. Zweifel

Mar 18, 1951

266

Rana boylei

0.5 mi. S and 2.3 mi W La Honda,
San Mateo Co., Calif.

At about 4:30 PM Bill Bienes and I captured three very small Rana boylei and lost two adults which were seen.

One of the young was taken from an isolated diversion from the main stream where the water temperature was 13.5°C . The others were by the main stream, water temp 12.5°C . One was under a rock, the other (and the adults) on rocks beside the stream.

The stream is San Gregorio Creek. There are a few redwoods and doug fir about on the hillside, but the aspect is quite open, in contrast to the situation along the same stream 1.4 mi N of La Honda where no frogs were found, and where the water temperature was 10.9°C . Also at this latter locality the water was considerably more turbid.

There are dorsal spots faintly indicated on these juveniles, but edges very diffuse. The dorsolateral fold area is emphasized on two individuals by an accumulation of red pigment. The throats are dark.

R. Zweifel

Mar. 23, 1951

267

Rana boylei

2.9 mi SE Clayton, Contra Costa Co., Calif., 600'

Along about 300 yards of stream I saw only four frogs, of which two were caught. The water temperature was 17.8°C .

The stream (Marsh Creek) had been disturbed recently by road construction, which may account for the scarcity of frogs; or perhaps it is merely a little early in the season.

The hillsides to the south have a thick growth of digger pine and oak, to the north scattered oaks over grass. The stream itself is subject to the full sunlight, the few sycamores are not yet in leaf.

The dorsal color of the frog is light brown, with a slightly yellowish tinge. There is only the slightest suggestion of a concentration of melanophores to form spots. The light head bar is only faintly indicated across the front of the eyelids. The throat ^{of the snout opening} is immaculate except for the edge of the jaw.* The iridic granules are highly developed.

One of the frogs laid four eggs in the grass within a couple of hours after capture.

* The throat of the large has scattered melanophores.

R. Zweifel

Mar. 29, 1951

Rana boylei

17 mi N and 13 mi. E Redding, Shasta Co, Calif

289, 290 Joe Harmon.

Dorsal color a dark brown with a greenish tinge. Light stripe on head present but not distinct. No definite pattern on back. Throat with moderate melanin development. Yellow in groin and lateral base of femur. Iridiopharyngeals moderately developed. SV-48 mm.

A smaller specimen (SV-37 mm) is similar except that the dorsolateral lines are faintly indicated in dark reddish brown.

Joe says that the water temperature was between 6° and 8°C where these were collected.

Rana boyleiObservations on captive Rana from Shasta
and Contra Costa CountiesCalling

The call is a short rasping affair which sounds just about like "croak". The croak is given by both males and females. The males call whenever attempting to amplex^(?) when ~~and~~ another frog attempts to amplex with them, or sometimes without tactile stimulus. The large female from Contra Costa Co. croaks whenever a male attempts to amplex her. She appears rather thin and has probably already laid her eggs.

Perhaps croaking serves to inform a would-be amplexer that the object of his attention is unavailable, either by reason of being male or already having laid eggs.

By simulating amplexus, it was possible to get both a male and a female croaking at the same time. The croak of the female is about one full tone below that of the male, is given more slowly, and is less rasping. The throat distention of the male is noticeably greater.

Throat color

In the light phase, the throat of the Contra Costa frog is almost immaculate white with only a little darkening around the

Zugel

May 31, 1951

Rana boylei

270

edge of the jaw. In the dark phase, individual melanophores which are macroscopically invisible in the light spread around the to give the throat a grayish cast with no definite pattern.

The throat of the Shasta frog has numerous dark reniform markings against a ^{light} ~~dark~~ background. These markings average about 1.5 x 8 mm. The contrast between the markings and the background changes in going from light to dark phase, but the pattern is essentially the same.

R. Zweifel

April 8, 1951

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Rana boylei

7.1 mi SSE Clayton, Contra Costa Co., Calif.

One-half mile of stream was covered, working most of one side and part of the other. In this 880 yards of stream, only 7 Rana boylei were seen, one of which was captured. This adds up to about one frog for every 377 feet of stream, which seems to be a rather low population density.

Probably this condition may be attributed to the scarcity of trees and bushes beside the stream, which reduces the available insect food.

Rana boylei seems to be able to better breast the current than does R. aurora, where it is possible to watch the two swimming under similar conditions.

Rana boylei boylei

E. Fork, San Gabriel River, 3.0 mi. from Camp
Reunion, Los Angeles Co., Calif.

1951, R. Zweifel

The dorsal color is light brown with an olive tinge. On the back between the dorsolateral lines there are about ten ill defined darker spots ranging in diameter from one to four millimeters. The dorsolateral glandular folds are very little elevated and are colored as the rest of the back, olive-brown. The hind legs are barred. Toe tips are light brown, some of them lighter than the back - a contrast to R. b. muscosa. The region of the groin and undersides of femur and tibia are yellow. The rest of the underside is white. In light phase, the throat is immaculate. In dark phase there is a general darkening with no definite pattern perceptible. The light band across the front of the head is faintly indicated. Bridle groove is well developed - possibly better than in R. b. muscosa.

R. Zweifel

May 12, 19273

Rana boylei

Notes on iridic granism

I have at present six living examples of R. boylei from the following localities:

San Gabriel River, 2 (R. b. mucrona)

Contra Costa Co., 1

Shasta Co., 1

Tuolumne Co. (foothills), 1

San Gabriel River, 1 (R. b. boylei)

The granism of the mucrona eye is more of an orange-gold color, contrasting with the yellow-gold colors of the Shasta, Contra Costa, and San Gabriel River frogs.

The eye of the Tuolumne frog is slightly deeper yellow than the other non-mucrona.

R. Zweifel

May 12, 1956

274

Rana boylei

#6 Wm. D. Clarke (April 15, 1951)

Turnback Creek, Tuolumne Co., Calif.

SV 96 mm. — The light forehead band is well indicated. The dorsal color is dark greenish-brown with a definite reddish brown overcast, the latter particularly evident on the sides and dorsal dorsolateral folds. There are moderate sized (4 mm) spots of darker color on the back, but they are not very distinct. The toe tips are brown, not sharply defined black as in R. b. maculosa. The hind legs are banded.

Throat markings tend toward the vermiform type.

On March 17-18, Bill Clarke visited the same general area where this specimen was collected and found Triturus and Hyla but no R. boylei.

R. Zweifel

May 12, 1955

Rana boylei boylei

Dimmick Grove State Park,
Mendocino Co., Calif

230 D. C. Abell

Reddish-brown on D-L lines and on
sided areas between them. Also on tibia
and foot. Throat marking distinctly
uniform

H. Zweifel

May 20, 1951
276

Rana boylei

Shaggy Springs, Sonoma Co., Calif.

Adults collected here, water temperature 17°C . Riemer found an egg mass with well developed embryos.

Robinsons Cr., 5.5 mi. SSW Ukiah,
Mendocino Co., Calif.

Four tadpoles were collected in a shallow pool cut off from the main stream. The water temperature was 30.2°C

R. Zweifel

May 20, 1951
277

Rana boylei

Robinson Creek, 5.5 mi. SSW Ukiah,
Mendocino Co., Calif.

1500 R. Zweifel

Dorsal color brown with indistinct

dark spots 2-2½ mm in diameter.

Throat marking vermiciform. Eye more
golden. D-L folds slightly developed

1501 R. Zweifel

Dorsal color greenish-brown with no
discernable pattern. Throat marking

vermiciform. Eye more yellow. D-L folds
undeveloped

R. Zueifel

May 20, 1951
278

Rana boylei

Stagg's Springs, Sonoma Co., Calif.

1997, 1998 R. Zueifel

Females without definite dorsal pattern.
Throat marking vermiform. General
coloration brown.

1999 R. Zueifel

Male with rusty brown color on and
between dorsolateral lines and on upper
surface of tibia.

R. Zweifel

May 31, 1951
279

Rana boylei

Boulder Ck, Santa Cruz Co., Calif.

Wm. Bieker, collected May

Dorsal color light with no distinct markings. Throat with evenly scattered melanophores, black not aggregated into distinct markings.

Robinsons Ck, 5.5 mi SSW Ukiah,
Mendocino Co., Calif.

SV 39 mm

Vern. Riemer

When removed from the cold room (19°C) the frog was in very light phase. No markings were evident on the back and the anterolateral light bar was barely visible. The throat and venter were immaculate white. The typical yellow coloration was present in the groin.

After being for some time in a bottle on the black desk top, the frog darkened considerably. Diffuse ^{dark} spots 3 mm in diameter became evident on the back, as did the dark markings of the throat and foreleg insertion area.

Dark bars are very evident on the tibia and femur.

R. Zweifel

Oct. 20, 1954
281

Rana boylei boylei

3 1/2 mi E, 1/2 mi. S Mt. St. Helena, Napa Co., Calif.

1635 R. Zweifel

This individual was found in the overflow stream, 2 ft. wide, from a spring & artificial pond. The surrounding forest contains yellow pine, Doug. fir, big-leaf maple and dogwood.

Markings between the dark dorsolateral lines are very diffuse. The lines themselves are emphasized by an accumulation of pigment of a deep brown-red color. The dorsal body color is tan with a slight yellow-green tinge. Dark bars are evident on the tibia, femur and foot. The hind toe tips are dark. Throat markings are very dark and vermiform. The yellow of the groin extends onto the side of the abdomen. The rest of the abdomen is white.

R. Zweifel

Oct. 20, 1951

282

Rana boylei boylei

2 1/2 mi E Mt St Helena, Napa Co., Calif.

St Helena Creek, 1550'

1696 R. Zweifel

A few minutes collecting at this spot
turned up only one frog, though conditions
seemed ideal.

This frog has little trace of distinct mark-
ings on the dorsal surface of the body, al-
though dark bars are evident on the upper
surfaces of the tibia and femur. The surface
of the back between the dorsolateral lines is
bright reddish brown, as are the upper
surfaces of the hind legs. Red marks
are present even out on the hind toes.
The toe tips are not dark. Throat markings
are of the dark, vermiform type.

R. Zweifel

Oct. 20, 1951

283

Rana boylei boylei

$\frac{1}{2}$ mi. W, $\frac{1}{4}$ mi. N Skaggs Springs, Sonoma Co.,
Calif.

1639 R. Zweifel

S-V 27mm

No distinct dorsal body markings.
Lateral lines very red-brown. Same color
well developed on tibia, foot, and on
'warts' between d-l lines. Venter white
except for groin

As observed under the dissecting 'scope,
the iridescent guanophores are deep red-gold in
color. The upper border of the nictitating
membrane possesses yellow-gold guanophores

H. Zweifel

Nov. 8, 1975

Rana boylei boylei

284

Little Forno Cr., 4 mi NE Agua, Shasta Co., Calif

Review of eleven living individuals brought in by Joe Korman. The color pattern is essentially the same in all - several diffuse spots, 1.5-2 mm in the adults, on a light tan background. Frogs on dark places have typically serminate short markings. In several the dorsomedian line is reddish-brown, but 3 more of the frogs has the general all-over red cast present in many of those from the redwood areas. The hind legs are banded.

The margin of the eye breaks the line of the lower jaw in ^{four} of these frogs; all small ones. (When observed from above)

R. Zweifel

April 23, 1951
285

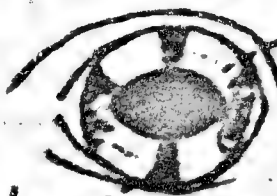
Rana boylei mucrona

Lycanore Camp Ground, Little Rock Creek,
San Gabriel Mtns, Los Angeles Co., Calif

1449, R. Zweifel

Frog in light phase

The ground color is light greenish-grey. There are irregular dark markings dorsally and laterally. These markings are anovoid spots ranging in diameter from two to five millimeters. There are about 16 of the spots on the back between the dorsolateral line. The dorsolateral line area, marked off by an accumulation of gold-brown pigment which is not conspicuous elsewhere on the body. Dark markings on the back of the head between the eyes give the impression of a light line across the front half of the eyelids and intervening head area, but this "light line" is the same color as the rest of the ground color, not lighter as in R. b. boylei. The hind legs (femur, tibia and foot) are banded. The tips of the digits are black, especially the hind two. Dorsal granules are well developed:



Gold

Black

The abdomen is pale yellow, shading into white on the throat, which is without spotting.

Rana boylei maculosa

July 30, 1951

Evans Valley, Palomar Mtn. State Park,
San Diego County, Calif.

Seven frogs were collected between 10:00 AM and 10:30 AM from the creek in the forest upstream from where it enters the valley proper. The creek is deeply shaded by white alder, white fir and incense cedar. Herbaceous vegetation is very thick and contained - among other unidentified plants - blackberry, nettle, thimble leaf, wormwood, currant, columbine and some very aromatic mint.

The prominent rock of the region is granite, and very dark gray in color. There are many boulders on the stream course, averaging 2 to 3 feet in diameter.

The stream bed and bank are silty, rather than the gravelly condition more commonly associated with maculosa. When frightened the frogs burrow in the silt on the bottoms of the pools. The deepest pools were only about one foot in depth.

Frogs were seen on rocks and on the stream edge, taking advantage of any sunlight which reached the stream.

Rana boylei muscosa

July 30, 1951 (2)

Temperature Records

<u>BT</u>	<u>ROCK</u>	<u>AIR</u>
22.6°C	21.6°C	22.0°C
25.5°C	21.0°C	—
19.0°C	—	—
18.0°C	—	—

All records were from frogs sunning on rocks about 18" to 2' above the water, and were taken within 10 minutes of one another. The water temperature was 14.6°C.

When captured, most of the frogs exhibited a behavior which I have noticed before in muscosa, but don't recall for boylei.

The eyes are withdrawn, the head depressed and ~~flat~~ flattened, and the front feet placed over the ears, as if to hide the head. Sometimes when in this position, the frog will remain quite motionless, even when released.

SV length 63 mm. Dorsolateral folds distinct. Ground color dark yellow-green. Distinct spots on back measure 3-4 mm in diameter - almost black. Hind toe tips dark. Eye very dark. Throat immaculate. Throat & underside a rich orangish-yellow; Tibia spotted rather than banded.

SV length 63 mm. Similar to specimen above, but spots smaller (more 3 mm) and less distinct. Tibia banded but not with sharply defined markings. Cluster of melanophores form brownish marking on the throat, particularly toward the lip.

SV length 65 mm. Similar to specimen immediately above but ground color with more of a gray tinge. Ventral color same. Throat immaculate. Tibia not banded.

The frogs bear considerable resemblance to muscosa but differ in several respects which are summarized below.

R. Zweifel

Rana boylei sierrae

Sept. 21, 1951

289

SIERRAE

Eye dark

Dorsolateral fold colored
about same as rest of body

Ventral surfaces yellow-
orange.

Tibia spotted or with
indistinct bars

MUSCOSA

Considerable ~~gold~~ yellow-
gold pigment in eye

Dorsolateral fold usually
with localized gold
pigment

Throat white. Belly pale
lemon-yellow

Tibia distinctly banded

Rana boylei sierrae

Sage Hen Creek, 3 mi. NW Hobart Mills,
Nevada Co., Calif.

1641 R. Zweifel (coll. O. Pearson) Nov. 3

Dr. Pearson states that although the days were warm, night time temperatures were down in the low 20's F. About three weeks ago there was an 8" snowfall which was only partially melted at this time. Of two frogs captured, one froze to death at night & the other was returned to Berkeley alive. Both were found in small pools.

The dorsal pattern consists of numerous 1.5-2.5 mm dark spots on an olive-brown background. The hind legs are spotted, not banded. Dorsolateral folds moderately well developed.

When viewed from directly above, the margins of the eye projects past the edge of the jaw, in contrast to the condition



1641

seen on 3 specimens from MH Zyll

P. Zweifel

Nov. 5, 1951

291

Rana boylei sierrae

Long Pine Creek, 3 mi. NW Robert Valley
Nevada Co., Calif.

P. Zweifel 1641 (continued)

There is more light (gold) pigment on the
side of 1641, and it is green-gold rather
than the red-gold of the Mt. Sylvestre frog.

Ventral surface as pale yellow-orange,
darker on the legs. Toe tips have dark
dorsally.

S-V 52 mm.

There is no indication of the white
maxillary stripe of R. cascadae.

J. Zweifel

April 22, 1951
292

Cnemidophorus tigris multicaudatus

Live! Canyon, Santa Susana Mts.,
Los Angeles Co., Calif.

A small individual seen (but not captured) here had a tail which was definitely not bright blue (as in C. t. tigris) but rather a deep, dull grey-blue. The lizard's total length was about 6".

Cnemidophorus tigris multiscutatus

Paso Picacho Camp, Cupernaca Rancho
State Park, San Diego Co., Calif.

Aug 31, 1951

A juvenile (55 mm) found beneath
a rock in a grassy area bordering the
forest.

The tail is gray-blue, darker dorsally.
It is nowhere near the brilliancy of
the blue tail of desert whiptails.

Coluber lateralis

Hobo Hot Springs, Kern River, Kern Co. Calif.

1630, 1631. R. Zweifel

These two adult individuals have the same coloration, as closely as I can tell from Ridgway:

mid-dorsal at mid-body. - Blackish - Brown
throat. - between Ochraceous Buff and Light
Ochraceous Buff

chin. - white with dark gray specks

mid-ventral. - Light Ochraceous Buff
deepening to Coral Pink on the posterior
quarter of the body.

lateral stripes. - Maize yellow

Cnemidophorus TigrisCongo, Texas Co., Calif.

1835 R. Zweifel

A hatchling (SV 36mm) captured when it tried to hide in a shallow hole by the riverbank.

Color pattern

Four distinct yellow lines mark to the base of the tail. Three on the paravertebral and dorsolateral lines. The middorsal and dorsolateral fields are black with a very few yellow spots appearing on the posterior half. The sides below the dorsolateral line are black, spotted with yellow. The basal third of the tail is essentially a faded extension of the body pattern, which gradually alters to the bright blue of the distal two thirds of the tail. The chin and ventral body surface are white without distinct markings.

Dec. 14, 1951

The lizard was kept alive until this date, when it was accidentally killed.

S-V 42mm, tail 92.3mm. Some change in color pattern had taken place. Faint indications of yellow spots are now visible as far forward as the fore leg insertion on the vertebral and left dorso-lateral fields.

Mar. 17, 1951

Eumeces skiltonianus

4.9 mi E and 0.4 to 2.6 mi N of Milpitas,
Santa Clara Co., Calif.

Nine of eleven skinks seen here were secured by Bill Wooden and myself. Seven of these were beneath boards and limestone rocks on the grassy hill-sides, the other two were dug from the interior of a rotten oak log in oak woodland.

The two skinks which escaped did so down holes beneath the rocks under which they were found. One of these holes went vertically down about 4" where it met a horizontal burrow 2" in diameter. The vertical hole was just large enough to fit the skink, and appeared to have been dug or at least shaped by the lizard.

The skinks were collected between 11:30 AM and 2:00 PM. There was a strong wind blowing, the sky clear and the air temperature about 18°C.

One of the skinks had a body temperature of 29.9°C.

H. Zweifel

297
May 6, 1951

Cumeces stictorhynchus

9 mi WSW Fairfax, Marin Co., Calif.

Grassy hillside with madrone,
live oak, and bay in the draws.

Intermittently cloudy and sunny.

Spent about 15 minutes turning
over rocks but found no lizards.
The soil beneath the rocks was moist,
but not excessively so.

While walking along the shoulder of
the road I saw a small skink rush
off into the brush and escape. By
walking quietly along the shoulder
and checking on every small move
heard, I was able to catch three
skinks, positively identify three
more, and see four others which
were probably skinks. Certhrotus
coeruleus and Sceloporus were
also present.

Two of the skinks which escaped did
so into rodent holes. Another entered
a skink-sized hole between rocks. I
returned about 15 minutes later and
caught a skink (the same one?) at the
mouth of the hole.

Body temperatures of 29.0°C and 28.8°C
were taken on active skinks. The air was
about 16°C .

H. Ziegl

June 30, 1956.98

Cumeca skiltonianus

Paso Picacho Camp, Cuyamaca Rancho
State Park, San Diego Co., Calif.

Found at about 4:30 PM (DST) as it ran
across a shady dirt road and
burrowed in the black oak leaf
litter.

July 27, 1951

In captivity, this skink ate a hatchling
of the same species.

Aug. 1, 1951

Two (an adult & a hatchling) were found
under logs this morning. The lizards
were very active.

Aug. 2, 1951

Three hatchlings were captured under logs
this morning. Two adults escaped. Both
were seen in the open - one went down a
hole and the other under a rock. Hatchlings
seem to be out in full force now.

Aug. 23, 1951

East Mesa, Cuyamaca Rancho State Park
A juvenile was captured at 10:30 AM at
the edge of a spring, where it tried to hide
in the juniper bushes.

Ameiurus schistarius

Paso Picacho Camp, Cuyamaca Rancho
State Park, San Diego Co., Calif.

Aug 29, 1951

Two juveniles and an adult were captured this morning. The adult was beneath a rock, one of the juveniles in a pile of rattlingwood, and the other running along beside a stream, where it tried to hide in the juniper bushes.

The skinks of this area, particularly the juveniles, have a brassy tinge to the light stripes.

R. Zweifel

June 25, 1951 ³⁰⁰

Xerhomonstus multicaudatus webberii

Paseo Picocho Public Camp, Cuyamaca Rancho
State Park, San Diego Co., Calif.

At about 7:15 this evening at the outdoor theater I heard a rustle in the leaves beside a stone foundation, but found nothing. Later on, about 8:15 PM, I returned to the same spot and caught an alligator lizard going into a hole in the masonry. This was shortly after sundown. A few minutes earlier at my cabin the air temperature was 12°C . Unfortunately I had no thermometer when the lizard was caught. The ground was undoubtedly much warmer than the air.

The lizard is a gravid female.

July 8, 1951

Green Valley Falls Public Camp, Cuyamaca
Rancho State Park, San Diego Co.

When frightened at the edge of a small pond, an adult *Xerhomonstus*, ~~adult~~ swam rapidly across about 6' of still water and ran out on the opposite shore.

P. Zweifel

Dec. 9, 1951

301

Hemionotus multicarinatus

St. Mary's College, Contra Costa Co., Calif.

On a Paleontology field trip today ~~to~~ at the east edge of the St. Mary's Campus, a young alligator lizard (SV about 85 mm) was noted swimming in the sandstone by the side of the road. Though sunny, the weather was cool. Freezing temperatures had occurred the previous night (or early morning, more probably). A can of water sitting ^{near} where the lizard was captured was frozen over at 11:00 AM when the lizard was captured.

Sceloporus occidentalis biornatus

Aug. 12, 1951

10½ mi. SBE Julian, San Diego Co., Calif.

These lizards were very abundant in an area of chaparral which was burned over about some years ago. The plants (manzanita, scrub oak, Ceanothus and mountain mahogany in particular) have regrown from the base and form dense thickets from one foot to three or four feet high. For another three to four feet out of the thickets protrude the dead stems killed by the fire. These dead branches provide the lizards with innumerable sunning sites. At my approach, the lizards either ran down the branch into the cover of the new greenery, or dropped directly to the ground (a distance of 3 to 5') and ran to shelter.

It seems that the fire has, temporarily at least, provided the scelope with better living conditions than would prevail in dense, unburned chaparral where sunning sites are limited to shoulders, or to road-banks.

Uta stansburiana hesperis

Aug. 31, 1951

Paseo Picocho Camp, Cuyamaca Rancho
State Park, San Diego Co., Calif.

This morning more than 20 of these lizards were collected. They were found beneath rocks in a rather open, barren area at the edge of the forest. There are areas of exposed granite bedrock, worn smooth and with mortar holes, and numerous small rocks (1' diameter) scattered over the bedrock and in the soil in between.

The dorsal pattern of eight adult females is composed of chevrons, as in the coastal form. Two adult females, however, have a linear pattern like the desert form.

Zweifel

June 30, 1951
304

Coluber constrictor mormon

In Caballos, Cuyamaca Rancho State
Park, San Diego Co., Calif.

An adult, found in a ^{dry} grassy field
bordered by sparse Jeffrey pine -
Rock oak forest. Time 11:30 AM, (DST)
BT 30.0°C.

While in the collecting sack, the snake
ate an Uta.

July 3, 1951

Cuyamaca Rancho State Park, 4 mi (by rd) S
Paso Pico Camp, San Diego Co., Calif.

A young individual still showing traces
of spotting found in green grass at
the edge of a small stream a few
hundred yards from its junction with
the Sweetwater river. About 1:15 PM, DST

Crotalus viridis helleri

Aug. 1, 1951

Big Hunt Camp, Cuyamaca Rancho State
Park, San Diego County, California

At 11:00 AM. Tonight two of the rangers
found (and killed) a rattlesnake when it
was crossing the road.

1/2 mi. W Paso Viecho Camp, Cuyamaca
Rancho State Park, San Diego Co., Calif.

Aug. 11, 1951

An adult taken crossing a dirt road in
sagebrush forest at 11:30 AM, DST

10 1/2 mi (airline) SSE Julian, San Diego
County, Calif.

Aug. 13, 1951

An adult ♂ found crawling through
sagebrush at 9:00 AM, DST. The air
temperature in the shade 1/2" above the
ground where the snake was first seen
was 35.0°C. The sagebrush was burned
over about three years ago.

Eucalyptus amabilis amabilis

Mar. 12, 1951

Tilden Park, Contra Costa Co., Calif.

This individual was found by Bill Woodin beneath Eucalyptus bark on the ground.

Relay Color Notes: Mid ventral surface - Cassino Yellow; sub-caudal surface - Grenadine red, dorsal surface - Dark Cinn Gray. SV - mm.

The supra-labials have the same color as the dorsal surface of the body, with the exception of numbers 4 and 5 which show a slight indication of the ventral color.

Mar 19, 1951

An adult collected by Robt. Bowman has a very dark ground color dorsally, almost black. There are numerous gray flecks present, especially anteriorly. Mid ventral color - Mikado Orange; sub-caudal color - Grenadine Red. There are prominent orange markings on the 4th and 5th supra-labials and faint markings on some of the others. SV - mm.

R. Zweifel

Mar. 23, 1907

Diadophis amabilis amabilis

Pine Canyon, Mt. Diablo, Contra Costa Co., Calif.

1903. Found beneath a slab of oak bark on the ground in oak woodland. SV 293mm. Mid ventral color Cassin's Yellow. Subcaudal color between Scarlet and Brazil Red.

The ventral color covers the first dorsal scale row. There is a spot of ventral color at the base of each of the scales on the second row. The first six supra labials have pale orange color on the lower portion, delimited above by a black margin. The ventral surface is heavily spotted with black.

R. Zweifel

April 25, 1951
308

Diadophis amabilis amabilis

Tilden Park, Contra Costa Co., Calif.

1966, R. Zweifel (Coll. w. Woodin)

Mid-ventral surface - Mikado Orange
Sub-canal surface - Grenadine Red
Dorsal surface - darker than Bluish Mouse Gray

The ventral color covers the first and barely
touches the second row of dorsal scales.

Orange on the supra-labials is not well
defined above. Ventral spotting moderate.

SV - 163 mm.

1967 R. Zweifel (coll. W. Woodin)

Mid-ventral surface - between Mikado Orange
and Cadmium Orange

Sub-canal surface - between Scarlet and
Brazil Red

Dorsal surface - Olivaceous black - but lighter

The ventral color covers the first row of
dorsal scales and touches the second
only anteriorly. Orange is present
on the central supra-labials, but is
not sharply defined. Ventral spotting
heavy. SV - mm. The color notes
were taken 2 days after the snake shed.

R. Zweifel

May 15, 1951

309

Diadophis amabilis amabilis

Baywood, Alameda Co., Calif.

Brought in by high-school boys.

Head and body color - a little deeper than

Capensis yellow

but Caudal color - deeper than but close
to Scarlet

Ground color - between Dark Olive - Gray
and Iron Gray

The ventral color covers the first row of
dorsal scales and touches the second
row basally. The supralabials are
moderately well-marked with orange,
but are not sharply marked off from
the gray of the head. SV 262 mm
Body moderately well spotted.

Griffith

May 15, 1933 310

Diadophis amabilis amabilis

La Chabot, Castro Valley, Alameda Co.
Calif.

Brought in by high-school boy.

Ventral color - Carmine Orange
Subventral color - Grenadine Red
Dorsal color - nearly black

The ventral color includes the first
dorsal row. Orange color on the upper
labials is diffuse. Feeling well
noted. A juvenile.

R. Zweifel

May 21, 1951

311

Diadophis amabilis amabilis

Tilden Park, Contra Costa Co., Calif.

Collected by Bill Clark.

Mid ventral - Capucine Yellow

Sub caudal - Grenadine Red

Dorsal - darker than Olivaceous Black

Ventral color covers first row of dorsal scales, and touches only a very few of the second row scales basally.

Belly spotting heavy.

Light mark on the supra-labials much paler than the belly color, and not clearly demarcated above.

SV 243 mm

P. Zweifel

May 21, 1951
312

Diadophis amabilis amabilis

Tilden Park, Contra Costa Co., Calif.

P. Zweifel

Mid ventral. — between Capucine Yellow
and Orange

Sub-caudal. — Scarlet

Dorsal — Dusky Nentral Dorsal

Ventral color covers the first and touches
the second row of dorsal scales.

Belly heavily spotted. Supra labial
spotting not sharply defined above.

SV = 267 mm

R. Zweifel

May 21, 1951

313

Diadophis amabilis amabilis

Tilden Park, Contra Costa Co., Calif.

Collected by S.F. Cook, Jr.

Ventral surface closest to Mikado Orange
but candidate between Scarlet & Bright Red
Dorsal surface between Dark Olive Gray and
Iron Gray.

The ventral color covers the first row of
dorsal scales and touches the second row
basally. Being spotting heavy.

The light marks on the supralabials are
edged both posteriorly and superiorly with
black, but the marks are not clear cut.

SV 412 mm

R. G. Zweifel

May, 1934

Diadophis amabilis amabilis

El Centro, near Turnout & Colman Ave
Alameda Co., Calif.

Mid-ventral. - between White & Orange & Cream

Gray

Int-ventral. - between Scarlet & Bright Red

Dorsal. - around Almond or black

Ventral color covers first dorsals sub
row, doesn't touch second. Being
heavily spotted. Very little orange on
supra-labials.

SV = 325 mm.

H. Zweifel

Oct. 31, 1951

Diadophis amabilis amabilis

Marsh Ck Road opposite Mt. Diablo

Contra Costa Co., Calif

SV 430mm - coll. by Herschel Snodgrass
July, 1951

Mid-ventral. - between Carmine Yellow
and Mikado Orange

Sub-caudal. - Scarlet

Dorsal. - Dark Olive Gray

~~Ventral~~
Dorsal color covers two rows of dorsal
scales, both of which are black
spotted. Venter heavily spotted.

Light color on anguinalate fairly
well defined above.

R. Zweifel

Oct. 31, 1951
316

Liadophis amabilis amabilis

Berkley Hills (Dr. Wells home)
Alameda Co., Calif.

SV-370 mm

Mid-Ventral. - between Capucine Yellow
and Pukeko orange

Sub-ventral. - Scarlet

Dorsal. - close to Blackish Green-Grey

There are no light marks on the supralabials.
The neck ring is narrow & pale. Ventral
color extends up $\frac{1}{2}$ dorsal scale row.
Ventral markings are heavy, forming
nearly continuous crossbars.

R. Zweifel

April 28, 1931 317

Diadophis amabilis

2.5 mi. N St. Helena, Napa Co., Calif.

1968 R. Zweifel

The following color notes were taken
one day after the snake shed.

Mid-ventral surface — Orange

Sub-caudal surface — Scarlet

Dorsal surface — between Dark Olive-Gray and
Iron Gray

The ventral color extends onto $1\frac{1}{2}$ rows of
dorsal scales. The first six supra-labials
are orange on the lower half. This color is
edged superiorly with black but the margin
is not clear cut and straight. Ventral
spotting is moderate. SV 183 mm.

The snake seems to be a D. a. a. x D. a.
occidentalis intergrade, but tends
strongest toward amabilis.

R. Zweifel

May 6, 1953 18

Diadophis amabilis

3 mi WSW Fairfax, Marin Co, Calif.

1976 R. Zweifel

Mid-ventral color — between Mikado Orange and
Cadmus Orange

Sub-caudal color — Scarlet

Dorsal color — Dusky Green-Gray

The ventral color covers the first row of dorsal
scales and there is a spot of orange at
the base of each scale of the second row.
The black spotting on the center is very
sparse, there being a marginal row of
spots along the tips of the ventrals and
only about 25 small spots throughout
all the rest of the ventral area. The orange
at the supra labials is not sharply edged
above. SV 262 mm

Diadophis amabilis occidentalis

Mar. 9, 1951

0.5 mi W Skaggs Springs, Inyo Co., Calif.

Two individuals (1337, 1338) found beneath rocks at the roadside have almost identical colors: Mid-ventral area - Flame Scarlet; sub-caudal area - Scarlet; dorsal surface - Dark Olive Gray. ~~SV 253 mm~~ ; SV 245 mm.

The lower half of the first six supra-labials is colored the same as the ventrals. This color is edged superiorly with black. The ventral color covers the first two rows of dorsal scales.

Ventral spotting is very sparse.

R. Zweifel

May

320

Diadophis amabilis occidentalis

Robinson Creek, 5.5 mi. SSW Ukiah,
Mendocino Co., Calif.

Wm. Biemer

Mid-ventral. — close to Salinas Orange, but
deeper

Sub-caudal. — scarlet

Dorsal. — Iron Gray

Ventral

Dorsal color covers two dorsal rows.

Reilly spotting sparse. Orange on
supralabials sharply delimited above.

SV = 268 mm

P. Zweifel

April 19, 1951
321

Diadophis amabilis pulchellus

Jawbone Guard Station, Tuolumne Co., Calif.

Adult, collected by J. H. Carmichael, April 15.

The dorsal color is Castor Gray. Mid-ventrally - between Plains Scarlet and Mercurial Red. Sub-ventral slightly deeper than Scarlet.

The ventral color covers the first, second, and much of the third row of dorsal scales. The lower half of the first 6 labials is the ventral color, sharply demarcated from the gray head color by a black superior margin which bisects the labials.

Black spotting on the venter is sparse but well defined.

SV

Diadophis amabilis similisCuyamaca Rancho St. Park
San Diego Co.

July 17, 1951

To date there have been three reports of ring-neck snakes - one in the campground, one on the Stonewall Peak road and one near Cuyamaca Lodge. All three were in the daytime, and at least two of them were crossing roads when seen. Two of the observers insisted that their snakes were about 2 feet long.

H. Zweifel

July 31, 1951

Liodorphis amabilis similis

323

1.3 mi SSE Paso Tiacho Camp, Cuyamaca
Rancho State Park, San Diego Co., Calif.

DOR, found at 11:00 AM. An alder shaded stream borders the road at this point.

The prominent trees on the adjacent hillside are black oak, coast live oak, and concolor pine. Elevation 4300'.

The snake is 22" in total length.

SV 470 mm, Tail 93 mm, Total 563 mm.

The ventral color is pale orange, moderately heavily spotted with black. The ventral color deepens little until about 1" in front of the vent, where the dark red subventral color begins. The ventral color covers about $\frac{1}{2}$ of the first row of dorsal scales.

The lower half of the supralabials is pale orange, edged superiorly by a black line which however is not straight and continuous.

(COLORS NOT RIDGWAY!)

Culebra latransYuba Hot Springs, Yuba River, Yuba Co., Calif.

1630, 1631 R. Zweifel

These two adult individuals have the same coloration, as closely as I can tell from Ridgway:

mid-lateral & mid-body - Blackish - Brown
throat - between Chraceous Buff and Light

Chraceous Buff

chin - white with dark gray speckles

and ventral - Light Chraceous Buff

deepening to Lead Black on the posterior
 quarter of the body.

lateral stripes - Varying yellow

R. Zweifel

Aug. 16, 1951 325

Tempropettia gabriela californica

Paso Pinacho Camp, Cuyamaca Rancho State Park,
San Diego County, California

At 11:00 AM some children brought an adult
striped king snake to me - they had just
captured it. The plant association is scrub
white-black oak-pine forest, elevation 4800'

R. Zweifel

July 5, 1951 ⁵²⁰

Pituophis catenifer amnestus

Hager Creek, Cuyamaca Rancho State
Park, San Diego Co., Calif.

1519 R. Zweifel

Found at 8:30 AM (DST) stretched out in
full sun on very slightly moist mud
in the canyon bottom. BT 29.2°C , air 1° 26.8° ,
soil surface 25.4°C . The hillsides at this
point are covered with chamise.

Here is a good illustration of the fact
that an ~~over~~ ectotherm temperature is
not necessarily the same as that of its
"environment".

Paseo Viejo Camp, Cuyamaca
Rancho State Park, San Diego Co.

July 9, 1951

One of the campers killed an adult
Pituophis in her camp at 10:00 PM.
She said it was drinking from a pool
by the faucet.

R. Zweifel

July 13, 1951 327

Pituophis catenifer amnectens

Paso Picacho Camp, Cuyamaca Rancho - State
Park, San Diego County, Calif.

A sub-adult found at 11:15 AM crawling
across an open space in the pine-oak-mense
cedar forest.

The iris of this snake is bright reddish brown.

July 17, 1951

At 1:00 PM today some campers showed me
a sub-adult gopher snake in a rock wall
by their campsite. They said it had been
chasing mice about in the wall for for
much of the morning.

At 4:45 PM, ^{one of the rangers} took me to where he had
seen a large gopher snake cross the road
(in the campground) a few minutes earlier.
I found the snake in the dry grass a
few feet from the edge of the road.
The snake was not kept.

Pituophis catenifer annectens

Paso Priacho Camp, Cuyamaca Rancho
State Park, San Diego Co., Calif.

July 29, 1951

Crier of "rattlesnake" brought me running up to a spot where a ~~large~~ small (SV. 490mm) gopher snake was hidden in a crack in a small boulder, swallowing a large adult Peromyscus ^{leucotis} ~~leucotis~~. Even though rather roughly captured and handled, and carried about in a truck, the snake continued to swallow the mouse, finishing in about 1/2 hour. The mouse was half down when the snake was captured. The snake was first seen about 1:00 PM.

Aug. 1, 1951

An adult found coiled beneath a log at the edge of the meadow about 10:00 AM.

R. Zweifel

June 25, 1951
329

Rhinocentrus lecontei

Lewiston Crossing, San Diego Co,
Calif. June 21, 1951.

1505 R. Zweifel

There are 21 cream rings on the body. Each of the scales in the cream ring above the 2nd row has a brick red marking. The red is more prominent laterally than dorsally. ~~covered~~ The lateral scales of the dark rings are marked ventrally with yellow, the markings forming an arc broken at the lower edge by a projection of solid yellow from the ventral surface. There are a few black markings on the ventral surface, occupying from $\frac{1}{2}$ to 3 scales.

The iris is reddish brown, not so bright as the body markings.

R. Zweifel

June 25, 19230

Rhinorhynchus lecontei

2 mi W Suisun Crossing, Sonoma Co., Calif. June 21, 1951

1504 R. Zweifel

Whereas on number 1505 the light rings contain only red markings on the cream, on this specimen the lateral portions of the light rings are characterized by the presence of dark markings centrally in every scale. The scales of three to five central rows are mostly red (within the light rings), forming a series of square red blotches. The dark blotches are narrowed laterally, while in 1505 they are of about the same width right down to the ventrals. There are a few light centered scales laterally in each of the dark blotches, but because of the shape of the blotch, they form a triangle rather than an oval as on 1505. The ventral surface is without dark markings.

R. Zweifel

Sept. 3, 1931

Thomomys elegans hammondi

2.5 mi. SSE Palo Verde Camp, Cuyamaca
Pamcho State Park, San Diego Co., Calif.

A small individual found on the front
porch of a ranger's residence. The nearest
water is a small, spring-fed pool
about 50-60 yards away

203833

